BDJ Team
FEBRUARY 2017

RADIOGRAPHY

For the dental team

BDA
British Dental Association

www.nature.com/bdjteam

February 2017

Highlights

Regulars

In this issue

Ed's letter

For dental nurses, completing further training in dental radiography can be a stepping stone to acquiring more responsibility within your dental team, and to extending your scope of practice. Whether you study the NEBDN Certificate in Dental Radiography or the BDA's own qualification in Dental Radiography, you will learn how to use X-rays safely and how to take common dental radiographs unsupervised.

Even if you aren't planning on further study, all registered dental care professionals (DCPs) must undertake at least five hours of CPD in radiography and radiation protection in every CPD cycle (except for dental technicians, who can do CPD in materials and equipment instead). Therefore we are pleased to include an article focused on the core CPD topic of dental radiography this February in *BDJ Team* - our most commonly requested CPD topic!

This issue also features an original article on handling dental complaints - another GDC-recommended topic - by new contributor Priya Sharma. Make sure that you read this article carefully and include it in your general (non-verifiable) CPD.

Back in 2013 the news that the rules on direct access to patients were changing was music to the ears of many dental hygienists and dental therapists. Although we featured an interview with one dental hygienist who has used this change greatly to her advantage (*Dental hygienist trailblazer*, http://www.nature.com/articles/bdjteam2016143), for many others, there are still too many barriers in place. Read Fiona Sandom's views on whether regulation is hampering direct access, this month in *BDJ Team*. Fiona makes reference to a *BDJ* study on the acceptability to patients of using DCPs as front-line clinicians, which we also include here for the benefit of *BDJ Team* readers.

If you've ever wondered what conditions are like for dental professionals like you in other countries, read our interview with Savannah, a dental assistant based in sunny Sydney. If you'd like to share your own story with *BDJ Team* readers, I'd be delighted to hear from you.

Kate

Kate Quinlan
Editor
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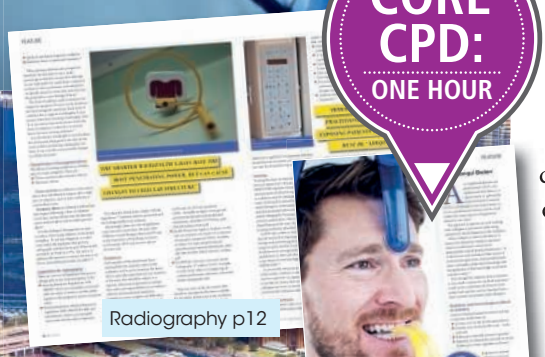

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THE TEAM

Cover
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DENTAL HYGIENIST AND DENTAL THERAPIST HONOURED WITH MBE

Dental hygienist and dental therapist and long-time member of the British Society of Dental Hygiene and Therapy (BSDHT), Sarah Murray, has been awarded an MBE for services to oral health in the 2017 New Year's Honours list. Sarah was nominated for the honour by her fellow BSDHT members for the dedication she has shown throughout her career to making a difference to people's oral health and the continued progression of her profession.

Sarah said: 'It is a huge honour to receive recognition for being passionate about my profession and it is this that I have strived to grow throughout my career. Dental hygiene and dental therapy have advanced significantly over the years and I am proud to have been a small part of this.

'There are many inspirational colleagues that I have been fortunate to have worked with, and together we have driven projects forwards, to change lives, both in dental education and for improving oral care within our clinical environments.'

Sarah is currently Senior Lecturer, Head of Centre and Programme Lead in the Institute of Dentistry, Queen Mary University of London (QMUL) - Barts and the London School of Medicine and Dentistry; she is also a Senior Lecturer at the University of Essex, and works collaboratively across both universities.

In her nomination, BSDHT members highlighted her commitment to furthering her profession throughout her 27 years as a member.

Sarah's continued commitment to furthering the profession can be demonstrated in many ways, one of which is the development of the BSc (Hons) Oral Health Science course at the University of Essex, using an innovative model. Registered dental hygienists are supported in continuing their education in primary care, leading to registration as a dental therapist, ensuring a career pathway and use of dental therapists' skills in primary care. Additionally, she has been instrumental in developing the teamworking and social responsibility aspects in the dental undergraduate programmes at Queen Mary.

As a BSDHT member, Sarah has been involved at a regional level for many years, undertaking a number of roles within the Regional Group, in addition to being a long-serving Council member, and more recently serving on both the education panel and research group.

President of the BSDHT, Helen Minnery, congratulated Sarah for her well-deserved honour: 'I have had the honour of knowing and working with Sarah for the past five years while on Council and Exec and believe she is an incredibly worthy recipient of her MBE. Sarah is the very embodiment of a BSDHT member: hardworking, knowledgeable, conscientious and dedicated to making a difference to oral health and to the profession.'

Enormous support for mouth cancer message

The Oral Health Foundation has hailed the impact that the 2016 Mouth Cancer Action Month campaign has had across all areas of the UK's healthcare industry.

As well as the enormous support that the campaign has once again received from the UK's dental community, the charity is particularly pleased with the strong support garnered from other areas of the healthcare industry, including pharmacies, general practices and maxillofacial surgeons.

CEO of the Oral Health Foundation, Dr Nigel Carter OBE, said: 'If people can access the information that could save their life through their doctor or pharmacy then it gives them a better chance of catching it early. At best people only visit their dental practice once every six months and in the times in between it can be very easy to overlook signs of mouth cancer and the disease progressing.

'That is why, during Mouth Cancer Action Month, we were delighted to see the incredibly strong support from across the healthcare industry and unprecedented amounts of information being distributed about the signs, symptoms and causes of mouth cancer.'

www.mouthcancer.org

DENTAL STORYBOOKS COULD HELP CHILDREN WITH AUTISM

The Oral Health Foundation is backing the use of children's storybooks with dental narratives following a new study which has shown they can be a highly effective way of helping prepare children with autism for a visit to the dentist.[1]

The research, published in *Special Care in Dentistry*, found that almost two thirds (64%) of caregivers felt that dental stories were a useful tool for both themselves and their child in preparing them for a visit to the dentist.

The stories were delivered to children via a range of different media, including picture based story books, photographs and video, with caregivers questioned before and after the stories to analyse the effect they had on the children's attitudes to visiting the dentist.

The Oral Health Foundation believe the use of dental stories could lead to a significant benefit in the long term oral health of children with autism by helping to develop behavioural routines involving positive behaviour such as tooth brushing.

Dr Nigel Carter OBE, CEO of the Oral Health Foundation, said: 'Everybody needs to look after their oral health, but for children with autism developing the required behaviour to do so effectively can be difficult due to the level of intimacy involved when they are learning to look after their oral health effectively.

'Many children with autism do not have the capacity to read and comprehend the feelings, experiences and motives of others and can have difficulty understanding the need for things many of us find simple. We have found that such activities like toothbrushing and dental visits can be particularly stressful for children with autism, as well as those with other learning difficulties, which can lead to increased levels of oral health disease.

'By using dental stories, we can help them achieve an improved level of care and from this there can be real benefits to their oral health for life. By using storybooks to help incorporate behaviour, such as visiting the dentist or brushing their teeth, into their daily routine it can mean they can look after their own oral health more effectively later in their life.'

Children with autism are recognised to be at a higher risk of some oral health problems, including: bruxism, ulceration, erosion due to regurgitation and tooth decay as a result of limited dietary preferences and sweets being given as behaviour rewards.

As part of their work to help young children develop basic oral health behaviour such as habitual brushing using storybooks social stories, the Oral Health Foundation provide a wide range of children's books through their Educational Resources store.

1. Marion I W, Nelson T M, Sheller B, McKinner C M, Scott J M. Dental stories for children with autism. *Spec Care Dentist* 2016; **36:** 181-186.

BDA BACKS TOOTHBRUSHING PROGRAMMES

The British Dental Association (BDA) has backed new calls from NICE for oral health programmes in schools, calling on national government to support local authorities to turn the tide on an epidemic of tooth decay.

NICE has recommended councils provide toothbrushing schemes in schools and nurseries in areas where children have poor oral health. Similar schemes exist in both Wales and Scotland, where devolved governments have set out dedicated oral health strategies that include outreach to early years and primary schools, and which have contributed to record breaking falls in decay. Despite progress by many local authorities, there is no equivalent programme in England.

Health officials have claimed that devolution of powers to local authorities in England represents a barrier to rolling out a dedicated national programme.

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Vaccine developed to prevent periodontitis

Researchers from the University of Melbourne have developed a vaccine to treat periodontitis. So far the vaccine has been tested in mice and if successful in human trials, will be able to prevent chronic periodontitis.[1]

The vaccine is targeted at the bacterial species that has been singled out as the main pathogen leading to gum disease.[2] The vaccine will stimulate the host's immune response to produce antibodies towards this species of bacteria, preventing it from building up and reducing the inflammatory response and the level of destruction.

1. O'Brien-Simpson N M, Holden J A, Lenzo J C *et al.* A therapeutic Porphyromonas gingivalis gingipain vaccine induces neutralising IgG1 antibodies that protect against experimental periodontitis. *Npj Vaccines* 2016; **1:** 16022; doi:10.1038/npjvaccines.2016.22; published online 1 December 2016.
2. Hajishengallis G, Darveau R P, Curtis M A. The keystone-pathogen hypothesis. *Nat Rev Microbiol* 2012; **10:** 717-725.

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DCP SYMPOSIUM, CARDIFF

The Dental Postgraduate Section of the Wales Deanery in collaboration with The Royal College of Surgeons Edinburgh will be holding their 8th DCP Symposium entitled 'Past, Present & Future' on Friday 5 May 2017 at the Marriott Hotel, Mill Lane, Cardiff.

For further information please email Liddingtonke@cf.ac.uk or Hayeskj@cardiff.ac.uk.

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Letters

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ANOTHER DENTAL NURSE CRYING FOR HELP

Dear Editor,
After reading your recent article on dental nurse salaries,[1] I thought why not share my insight and feelings.

I go to work daily with a smile on my face, happy to help patients, but inside my mind runs at a million miles an hour. I feel deeply demotivated after reading this article and others due to how undervalued we are despite the amount of work we put into our studies and day to day duties. Essentially, what's the point in dedicating so much to be brushed off like dirt? Why are people afraid to challenge this topic? Why do we not have any organisation to protect us against this type of exploitation?

My biggest regret is giving everything up I had before to follow what I loved, realising the disgraceful pay scale of being a dental nurse. It's absolutely insulting, degrading and shameful to get minimum wage and a lack of recognition after all the effort we put in. I alone have known 21 people that have left dental nursing in the last 11 months directly because of the issues described in this article which is SHOCKING!

In my time over and above my nursing duties, I have utilised my skills to translate for the dentist as I speak various languages which again is taken for granted and I funded my own course.

I work in a practice that is 'Gold Standard' and charges patients a fortune yet all the employees complain how badly paid they are including the practice manager, while the dentist continuously talks about what fancy holiday she's taking next, new house she bought abroad and how expensive the private tuition is for her kids. I have to endure mild sexual harassment daily and say it's fine as I need my job. This is astonishing to me as without the staff there would be no practice.

I could go on, my point being I earn less than £8,000 a year and barely have enough to put food on the table after basic living costs with my monthly wage; it's disgusting that the BDA and GDC don't regulate or help this problem by setting a pay band or at least make a decent wage scale for dentists to stop their exploitation. Brexit is around the corner; what happens when prices go up (which they will) and how will people survive for basic necessities? Why can't all nurses be regulated and get a decent wage?

Rubbish collector, shop assistant, street sweeper, bar tender - among many other jobs - all earn a lot more than dental nurses without any studies or skills. The exploitation in dentistry is beyond me.

I feel more articles should be published warning new trainee dental nurses of these issues and giving them accurate information before they jump into this very poorly paid industry.

'I GO TO WORK DAILY WITH A SMILE ON MY FACE, HAPPY TO HELP PATIENTS, BUT INSIDE MY MIND RUNS AT A MILLION MILES AN HOUR. I FEEL DEEPLY DEMOTIVATED AFTER READING THIS ARTICLE.'

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Anonymous

f you would like to comment further on this issue please send us an email or visit the BDJ Team Facebook page www.facebook.com/bdjteam.

1. Why are dental nurse salaries so low? *BDJ Team* 2016; **3:** 152. Available at: http://www.nature.com/articles/bdjteam2016152.

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Go beyond ticking boxes this year

Joanne Brindley[1] encourages you to stop and consider what your future vision of practice looks like.

Now that the New Year has begun, there is an opportunity for us to reflect on the past year and to consider the future. In its simplest form we can do this using Borton's[1] three stem questions:

What have I achieved?

So what did I do to achieve this?

Now what do I want my future practice to look like?

The use of reflection to consider how we envisage our ideal future practice can be called *prospective reflection*. Prospective reflection has been described by Alsop and Ryan[2] as the type of activity we undertake when viewing a holiday brochure, when we take time to visualise what our holiday location may be like, the type of people we will meet and the opportunities that may present themselves. The winter vacation period is an ideal time for us to relax and refocus on our lives and to take time to consider what we want the forthcoming year to look like. It is an optimum moment to take a step back to consider what we need to do to empower ourselves to become a better version of ourselves. A moment when opposed to just looking ahead to planning our own summer breaks, we can visualise and plan how our career pathways might be...

By planning a career pathway, I do not mean that we should just consider a singular perspective, but to think about how we can support ourselves and others. For example, if you have been having back problems, why not consider taking up a new class: Pilates, yoga, or a core strengthening class?

If your workplace relationships have been struggling, maybe now is the time to consider group activities that will build team relationships and make the team stronger. Perhaps a book club? Or a monthly bake (where each team member takes it in turn to bring a treat along for everyone to share)? You could even go for a short power-walk once a week, to get everyone away from the surgery and provide everyone with an opportunity to see some daylight (which is particularly helpful when the daylight hours are short).

For those more experienced staff maybe a spot of informal (or formal) mentorship may help you to share your experiences with other members of the team, enriching both your mentee's life with the added benefit that it can help to enrich your own pride and enhance the patient experience.

If you would like to learn a new skill, considering a course in an alternative therapy can be a useful enhancement to the entire practice. This can become a unique selling point that you can use to raise the profile of your workplace or practice.

Perhaps you have always had a burning desire to improve the aesthetics of your anterior composite restorations or you have a colleague who would like to go on an extended duties course. If making a large commitment seems too much, how about setting up a CPD fund that, with a small contribution every month, will enable you to go on a course that may change your current practice?

By taking the time to visualise a prospective view of not just your own practice, but also how you can help others to achieve their potential, you will enable the development of the dental team that surrounds you and ultimately enhance the patient experience.

Reflection can often be viewed in a negative light, just looking back on past mistakes, unpacking what went wrong and how to avoid reoccurrence in the future. I strongly believe that this should not be the case, that we should encourage a reflective culture to develop that is borne out of a need to nurture enquiry and insight generated as a direct result of a positive commitment to undertake reflection by all members of the team. The process of reflection and being brave enough to share our experiences and vision of the future aids in the proactive resolution of future problems by sharing new perspectives on a situation. This sharing of ideas facilitates involvement of all members of the dental team, generating a collaborative approach to personal development planning that extends far beyond just ticking continuing professional development boxes. Take time to stop and consider:

What does your future vision of practice look like?

How are you going to achieve this?

[1] *MA FHEA PgCLTHE RDH, RDT, Senior Dental Care Professional Teaching Fellow, University of Portsmouth*

1. Borton T. *Reach, touch and teach*. London: Hutchinson, 1970.
2. Alsop A, Ryan S. *Making the most of fieldwork education: a practical approach*. San Diego: Singular Publishing Group Inc, 1996.

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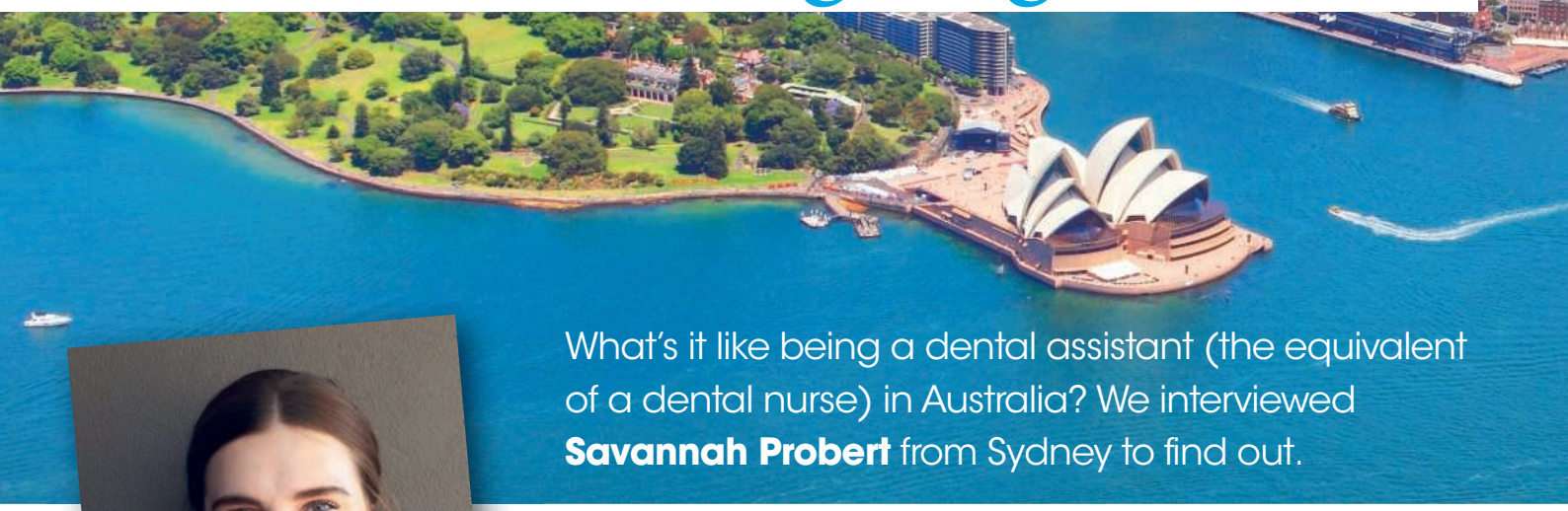
‘I find myself *looking forward* to going to work’



What’s it like being a dental assistant (the equivalent of a dental nurse) in Australia? We interviewed **Savannah Probert** from Sydney to find out.

Name: Savannah Probert

Age: 19

Role: Dental assistant, QC Dental, Sydney, Australia

Savannah is also a university student and is starting her third year of a Bachelor of Science degree majoring in Immunobiology and Anatomy & Histology in 2017.

Work pattern: Casual - every Saturday and usually a weekday

Qualifications: High School Certificate

Work history: Hospitality (restaurant), 2013; Retail (fashion), 2014-2016

Did you want to work in dentistry when you were at school?

I did not particularly think about working in dentistry but I began to be fascinated with the human body and health when taking biology in high school. I did not see a future for myself in retail and my passion for health was growing with my studies in science at university, so working in dentistry felt like a natural pathway to take.

How did you first come to work in a dental clinic?

I was unhappy in my retail jobs and began looking on job seeking websites where I found an advertisement for a dental assistant and receptionist job at QC Dental. The opportunity was difficult to resist as Quincy was kind enough to accept applications from those who did not have experience in the field, such as myself. I wanted to work in a field that not only appealed to my interests in health but where I could have more responsibilities and help other people.

What were your first impressions of working in a dental clinic?

I firstly felt overwhelmed as I had not experienced anything like it and there was so much I had to learn. Before starting the job, I think I had underestimated all of the hygiene practices! At the same time though, I was very excited that I was now working in a job where I could help others by supporting patients to feel comfortable and safe while improving their oral health and assist the dentist in doing his important job.

What did you like about the job and the environment?

It definitely confirms the phrase, ‘time flies when you’re having fun’! It is very rewarding being able to help people with their health and make it an enjoyable experience for them. I enjoy the need to focus in order to do important tasks such as hygiene practices and anticipate the needs of the dentist during an appointment as well as the responsibilities I get to hold. The work environment is very comfortable and the position of the clinic next to a train station and in a busy area of a popular suburb makes it very easy to travel to, access places to eat and purchase anything I need (and therefore easy for patients too!).

What qualifications/courses have you undertaken to become a dental assistant?

I do not have any qualifications. Australian dental assistants do not need to be qualified but we do have access to courses to gain additional skills.

What do your duties include?

My duties include assisting the dentist by preparing the treatment room by setting up for the service that the patient needs (for example, a filling), suction, having the patient’s files ready and handing the dentist any tools he may need during the appointment. Further responsibilities I have involve infection control (including sterilising equipment, disinfecting the treatment room after a patient has finished their

appointment and performing proper hygiene practices such as when to change gloves), and caring for the patient (such as providing them with a dental bib to avoid spillage on clothes, water and tissues, etc.). Quincy and I have also occasionally visited child day cares where we read a picture book on oral health to the children and go over basic oral health maintenance such as when and how to brush your teeth, when to visit the dentist and what foods are best for your teeth (and which ones to avoid). This is usually followed by some colouring in while Quincy quickly checks each child's teeth for any outstanding problems and rewards them with a sticker for being brave and well behaved. This allows us to reach out to our community and educate young people in order to begin a healthy routine at a young age.

Do you have a varied day/week?

Both my week and days vary. The time and day of my shifts in a week vary as I do not have set work days. Any one day is different as I meet new patients with different personalities and with different oral health concerns.

How many people are there in your dental team and what is the breakdown of roles?

There are two other dental assistants in our team. Michelle works at QC Dental full time and so she takes on the bulk of the responsibility and has additional roles such as ordering in new stock and assisting in the more complex procedures such as endodontics. Joanna and I have casual roles and will usually assist in basic procedures such as cleaning and fillings.

Do you have team meetings and socialise together?

We have fortnightly team meetings and keep a record of the minutes which is helpful for any of the team members that were not present to catch up on what was discussed. Occasionally we will go for lunch together and relax.

Are the kinds of patients who visit your clinic very varied?

A variety of personality types as well as oral health issues come to QC Dental and we accommodate every one of them! Dentistry is very personal and we understand that going to the dentist can be unnerving so we try our best to adapt to the patient's personality type in order to allow them to feel safe with the knowledge that they have control over their appointment (for example, telling us to stop the procedure if something hurts, or communicating what their concerns are so we can provide the best options of treatment).

'BEFORE STARTING THE JOB, I THINK I HAD UNDERESTIMATED ALL OF THE HYGIENE PRACTICES! AT THE SAME TIME THOUGH, I WAS VERY EXCITED THAT I WAS NOW WORKING IN A JOB WHERE I COULD HELP OTHERS'

Do you have any career plans to gain further qualifications in dentistry?

I am entering my third year of university in 2017 so currently I am not able to acquire further qualifications. I am, however, interested in pursuing a career in the health industry so throughout next year I will consider what I wish to do for my postgraduate studies, which may involve dentistry! Until then, if I am able to gain further qualifications in dental assisting after I graduate, I will likely do so in order to gain new skills and be the best that I can be.

Do you assist with all kinds of appointments?

I mainly assist in basic appointments such as cleaning and fillings but I have experienced

others like extractions and attachment of veneers. It was interesting to see the attachment of veneers and the amount of precision that goes into making the porcelain look like real teeth. There was a lot of correspondence with the patient to make sure they were very happy with the veneers before they were attached and it was delightful to see the big smile on the patient's face when the procedure was over.

Has being a dental assistant made you very strict with your own oral health? Do you give tips to family and friends?

I think my oral health was already quite good and I have never had any problems with my teeth in the past. I just make sure I make a note of when my six-month check-up is coming up and I keep up the basics such as using fluoride toothpaste, brushing twice a day and flossing, which can make a real difference in maintaining oral health. I grind my teeth at night time when I am asleep so I also keep in my retainer every night to prevent any further damage to my teeth. My family and I do our six-month check-up all together at the same time which makes it easier to commit to and harder to make excuses!

In the UK a lot of dental nurses are unhappy that they aren't paid a lot of money but they are expected to pay for CPD, registration, indemnity etc. Are the conditions for working as a dental assistant in Sydney good, do you think?

As I am in a casual role, I do not have any benefits or leave but I am happy with my hourly pay rate of $20/hour on weekdays (about £11.87) and $29/hour on Saturdays (about £17.21). The job is fast paced, enjoyable and the working conditions are very good at QC Dental, and I find myself looking forward to going to work which is something not everybody experiences, so I am quite lucky.

'I THINK MY ORAL HEALTH WAS ALREADY QUITE GOOD AND I HAVE NEVER HAD ANY PROBLEMS WITH MY TEETH IN THE PAST. MY FAMILY AND I DO OUR SIX-MONTH CHECK-UP ALL TOGETHER'

Are dental assistants registered in Australia? Do you have to do CPD/ regular training?

I am not registered and I do not have to do CPD.

How do you like to spend your spare time?

In my spare time, I like to read, eat, go to the cinema and go for long walks or hikes.

Do you have any exciting plans for 2017?

In 2017, I am graduating from the University of Sydney with a Bachelor of Science (majoring in Immunobiology and Anatomy & Histology) which is exciting!

Would you like to visit the UK in the future and if so what would you like to see?

I visited London shortly at the end of 2015 and I absolutely fell in love with it. I hope to travel around Europe in 2018, which will definitely include the UK. I love museums and architecture which the UK has plenty of so I will be spending all my time looking up at beautiful buildings! My mother is currently travelling around Scotland and Ireland, chasing up our ancestry and visiting all the places my family used to live and work, so the UK is a special place to my family.

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CORE CPD: ONE HOUR

Radiography for the dental team

By **Jacqui Elsden**[1]

As a registered dental care professional (DCP), it is understood that there is a requirement to uphold the General Dental Council's (GDC's) standards for the dental team, to act in a professional manner and to work within the many aspects of legislation related to our roles.[1]

This approach to patient care and working with colleagues is paramount when using radiation for dental diagnosis in the workplace.

When radiation is used in dentistry, it is known that all patient radiation exposures must be justified and carried out by appropriately trained dental professionals.[2-5] It is also known and understood that as part of professional registration, dental professionals must continually update their knowledge and the application of that knowledge, to promote radiation safety.[6,7]

Even though the radiation dose in dentistry is very small, compared to medical exposures,[8] it still carries a potential risk of harm to the patient and operator, and we therefore have a duty to protect our patients and colleagues.

Radiation and the biological effects of radiation

Sources of natural radiation exist in our day to day lives in the form of:

- Cosmic rays (in the Earth's atmosphere)
- Gamma rays (in the Earth's crust – rocks and soil)
- Radon gas (naturally present in granite)
- Ingestion of radioisotopes (present in certain foods such as fruit, vegetables and meat).[8]

CPD questions

*This article has four CPD questions attached to it which will earn you one hour of verifiable CPD. To access the **free** BDA CPD hub, go to **http://bit.ly/2e3G0sv***

Exposure to natural radiation sources is unavoidable and contributes the greater part of our annual radiation dose compared to that of artificial sources of radiation.[9] Sources of artificial radiation include:

- Fallout from nuclear explosions
- Radioactive waste

[1] *Jacqui Elsden MSc RDN, Dental Education Facilitator, London and the South East, Health Education England working across Kent, Surrey and Sussex. Jacqui is also a member of the* BDJ Team *reader panel*

- Medical and dental diagnostic radiation
- Radiation from occupational exposures.[8]

When putting radiation into perspective, therefore, the fact that we use a small percentage in dentistry means that although we are responsible for small doses, compared to those in other professions and industries,[9] we should always be aware that each dose has the potential to cause biological harm.[8]

The form of radiation used in dentistry for diagnostic purposes (X-rays) can be found on the electromagnetic spectrum. Each form of radiation has a range of wavelengths; X-rays possess both short and long wavelengths. Due to X-ray interactions at the atomic level, this form of radiation is referred to as *ionised*, hence the term ionising radiation.[2,9]

It is the shorter wavelength X-rays that have the most penetrating power and that are the most useful in producing radiographs, but these X-rays can also cause possible changes to cellular structure.

Classification of biological effects

The effects of ionising radiation are divided into two main categories. These are:

- Tissue reactions (deterministic effects)
- Stochastic effects.

Tissue reactions are defined as non-cancer effects that will definitely happen after a high dose of radiation, such as skin erythema or osteoradionecrosis.

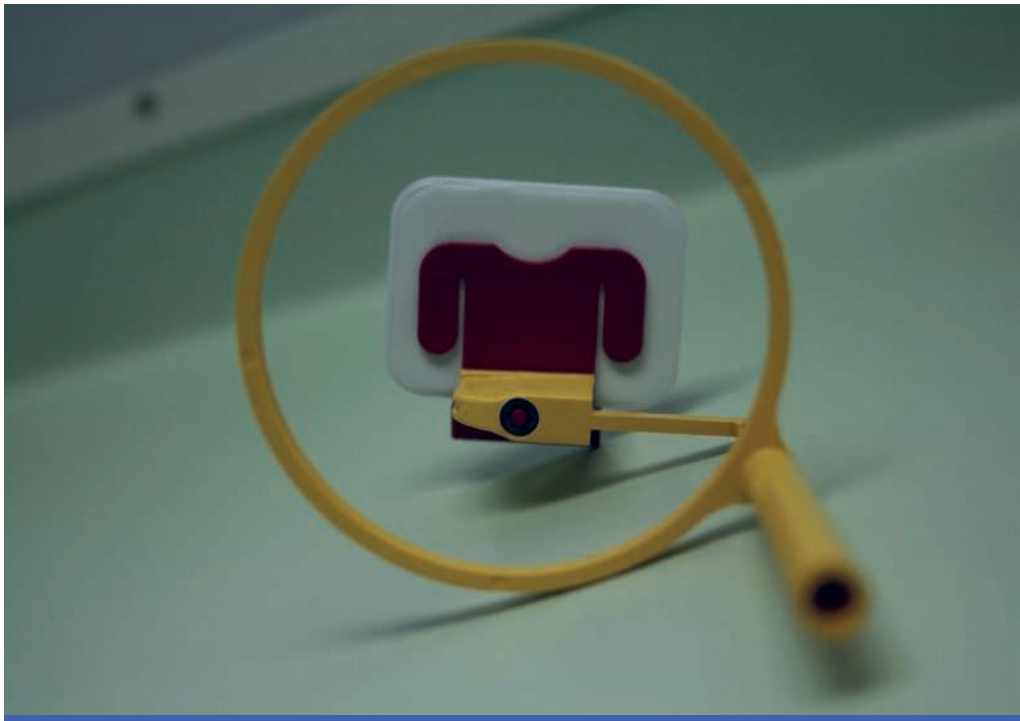
Stochastic effects are defined as effects that may happen following a dose of radiation of any size, and are further sub-divided into *cancer induced effects* and *heritable (genetic) effects*.[8]

It is this biological damage that we seek to reduce when using radiation in the dental workplace. To aid this obligation, we must work within the legislation that governs radiography and that forms part of the Health and Safety at Work Act 1974. The aim is to optimise all exposures to ensure the dose is as low as reasonably practicable (ALARP).[2,6,8]

Legislation for radiography

There are two sets of legislation that govern radiography in the United Kingdom (UK):

- Ionising Radiation Regulations 1999 (IRR99), which are principally concerned with the safety of workers and the public together with equipment aspects of patient safety
- Ionising Radiation (Medical Exposure) regulations 2000 (IR(ME)R 2000) and amendments, which are principally concerned with the safety of patients.



An example of an assembled posterior film holder and film packet

'THE SHORTER WAVELENGTH X-RAYS HAVE THE MOST PENETRATING POWER, BUT CAN CAUSE CHANGES TO CELLULAR STRUCTURE'

Providing the dental team comply with the legislation,[3,10] radiation safety is promoted and the biological effects are reduced.

Interestingly, these two sets of legislation came into force more than 100 years after Wilhelm Conrad Rontgen discovered X-rays in the University of Wurzburg, Germany in November 1895[9] and are now almost 20-years-old.

Guidance

Each member of the dental team has a responsibility for radiation safety in the workplace and to act to minimise the harm.[1] This is especially important for new members of the team who should be subject to a rigorous induction programme to explain their roles and responsibilities in accordance with the aforementioned legislation. Legislation can be complex and difficult to read sometimes; therefore, various sets of guidance have been published over time to help guide the team to comply:

- National Radiological Protection Board, *Guidance notes for dental practitioners on the safe use of X-ray equipment* (2001). Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/337178/misc_pub_DentalGuidanceNotes.pdf
- Health Protection Agency, *Guidance on the safe use of dental cone beam CT (computed tomography) equipment* (2010). Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/340159/HPA-CRCE-010_for_website.pdf
- FGDP(UK). *Selection criteria for dental radiography*, 3rd edition (2013). Available to order from: http://www.fgdp.org.uk/content/publications/selection-criteria-for-dental-radiography.ashx.

These are some of the documents that should be amongst the literature available for the whole dental team in the workplace. Whilst it is understood that some dental nurses do not have extended duties in radiography,[11] and are not IR(ME)R 2000 operators where film positioning and beam

An example of dental X-ray equipment control panel

alignment is applied, it is important that they should have an awareness of radiation safety not only for themselves but for patients.

Training

Training becomes an important part of the team approach to dental radiography. IRMER 2000 stipulates that all practitioners and operators involved in exposing patients to radiation must be 'adequately trained'.[3,6,8] Some DCPs such as dental hygienists and dental therapists, orthodontic therapists and clinical dental technicians receive their dental radiography training as part of their primary qualification. This can, however, vary depending upon the year of qualification and training institution attended.[8]

A DCP who wishes to train and become directly involved in selecting exposure settings and positioning the patient, the image receptor and the X-ray tubehead, should possess a recognised post-registration qualification in line with the GDC's extended scope of practice and the legislation relating to IRMER 2000.[6,11]

As previously mentioned, at the beginning of this article, radiation is dangerous and must be respected. As registered DCPs, it is our duty to ensure that our patients and colleagues are in an environment that is monitored for radiation risks and hazards.

Quality assurance

Quality Assurance (QA) in radiography ensures the continued production of good quality radiographs. There are many processes that contribute to a good quality radiograph:

- Patient dose (correct exposure related to patient type)
- X-ray equipment (maintenance of X-ray equipment)
- Operator technique (film positioning and beam alignment)
- Film storage and stock control (away from heat, light and X-rays/expiry dates)
- Processing (good film handling, good maintenance programme of chemical changes and automatic processor)
- Audit of radiographs (refer to National Standards).[2,8]

'IRMER 2000 STIPULATES THAT ALL PRACTITIONERS AND OPERATORS INVOLVED IN EXPOSING PATIENTS TO RADIATION MUST BE "ADEQUATELY TRAINED".'

A QA programme should ideally reveal errors in operator technique, operator processing lack of equipment maintenance and stock control.

Conclusion

It is appreciated that radiography is an essential part of treatment planning and decision making in dentistry but that it carries the risk of detrimental biological effects such as tissue reactions (deterministic effects) and stochastic effects, which should be monitored through the use of robust QA programmes.

It therefore remains our duty as GDC registrants[1] to find out and work within the bounds of the existing legislation to ensure the risks are minimised, not only to ourselves, but to our colleagues and patients.

Furthering your skills

If you have found this article interesting and wish to develop your knowledge and skills in dental radiography, Health Education England Kent, Surrey & Sussex are recruiting for their 2017-8 programme. For further information contact: Cassidy Gourlay on 020 7127 6262 or cgourlay@kss.hee.nhs.uk or register your interest at: http://www.kssdentaltraining.co.uk/courseDetails/1712.

Many other providers also offer post-registration training in dental radiography, including the British Dental Association: https://www.bda.org/dcps/course/radiography.

1. General Dental Council. *Standards for the dental team.* London: GDC, 2013.
2. Faculty of General Dental Practitioners (UK). *Selection criteria for dental radiography*, 3rd ed. London: FGDP(UK), 2013.
3. Department of Health. The Ionising Radiation (Medical Exposure) Regulations 2000. London: DH, last updated 2017. Available at: https://www.gov.uk/government/publications/the-ionising-radiation-medical-exposure-regulations-2000.
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7. Health Protection Agency. *Guidance on the safe use of dental cone beam CT (computed tomography) equipment.* Department of Health, 2010.
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9. Fuhrmann A. *Dental radiology.* Germany: Thieme Publishing Group, 2013.
10. Department of Health. The Ionising Radiations Regulations 1999. London: DH, 1999.
11. General Dental Council. *Scope of practice.* London: GDC, 2013.

CPD questions

This article has four CPD questions attached to it which will earn you one hour of verifiable CPD. To access the **free** BDA CPD hub, go to **http://bit.ly/2e3G0sv**

bdjteam201729

The professional approach to handling complaints

Priya Sharma[1] explains how to manage complaints seamlessly in your dental practice.

INTRODUCTION

It is stated in the current General Dental Council's (GDC's) *Standards* that a dental professional must:

5.1 Make sure that there is an effective complaints procedure readily available for patients to use, and follow that procedure at all times.

5.2 Respect a patient's right to complain.

5.3 Give patients who complain a prompt and constructive response.

It is explicitly outlined in the *Standards* as something all dental professionals must adhere to; the word 'must' indicating that the duty is compulsory.

This article will succinctly and practically summarise how to manage complaints professionally and seamlessly.

The first point is the fact that the majority of patients are content with their dental treatment and their own unique patient journey. These people indeed constitute the greater number of your patients. However as with anything in life, things can and do go wrong leading to patients being concerned or dissatisfied. The majority of unsatisfied patients do not make a formal complaint, rather they simply cease being a patient at the practice, however, some will indeed go on to make a complaint.

What is a complaint?

A complaint is defined as something that is unacceptable or unsatisfactory to an individual according to their own personal expectations; this may be justified or not. This may arise from the dental treatment itself and/or the general quality of service provided. Often the foundation of a complaint is due to a communication failure.

With the continual evolution of dental care professionals' roles in dentistry and the fact that they are often the first point of contact for patients it goes without saying that they will often find themselves handling the complaint, at least initially.

It is crucial that a practice implements a proactive transparent approach so that patients feel confident to express their views, concerns and dissatisfaction. A practice can promote this culture by encouraging patients to leave a comment or suggestion anonymously if desired at the practice (eg comment box), through the website or by a letter/email. In addition routine patient satisfaction surveys should be carried out in order to determine the overall picture of patient contentment and areas where improvement should be made.

[1] *Priya Sharma BA (Dist.), BSc (Pharm.), RDN, FRSA, FRSPH is a dental nurse and dental practice manager in London and a GDC fitness to practise panellist. Priya graduated as a pharmacist and sociologist in Canada. Her work experience includes pharmacy, medical information, pharmacovigilance, teaching at university, presenting at national conferences and medical writing.*

Dental practice training

It is imperative that each practice has its own personalised complaints procedure and that all staff are trained in how to manage a complaint. Every practice should have a designated complaints manager (usually a practice manager or principal) who will be responsible for handling the complaint. If this individual is not satisfactory to the patient another employee of the practice may be considered. As dental care professionals (DCPs) are more accessible to patients they are likely to initially share their complaint with them. Whilst dealing with any concern it is imperative to actively listen to the patient; to be competent in verbal and non-verbal communication in turn will be paramount to successful management of the entire interaction.

Complaints policy and procedure

Every dental practice should make sure that there is an updated complaints policy and procedure which is displayed where patients can see it and/or be given to patients if requested. Some practices choose to include a link through their website. This should be written in clear plain language making it easy to understand and follow. Time limits should be set out in the complaints policy so that patients can have realistic expectations on when to expect a response. It is advised that a formal acknowledgement of the complaint be given as soon as possible, normally within three working days.

The policy should also state that if a patient remains unsatisfied then they can contact the NHS complaints department or the Dental Complaints Service or the General Dental Council. The details of both should be included in the practice policy.

Resolving the complaint

The complaints manager will carry out a formal investigation into the complaint including but not limited to seeking the views of all relevant parties and the patient's clinical records. It is fundamental not to provide a detailed response to the patient before gathering all the facts and investigating. The professional must remain neutral and not defensive or aggressive. It is advisable to let the patient know how the investigation will be carried out. At this stage the professional who has received the complaint should contact their indemnity provider. Throughout the investigation it is suggested to keep in touch with the patient if so desired and the expected time frame for resolution. Upon completion of the investigation it is ideal to invite the patient in so that resolution of the complaint can occur. In addition a written response should be provided outlining the patient's perception of the issue and to express concern and acknowledging the inconvenience caused. At every stage it is crucial to maintain comprehensive notes.

'AT EVERY STAGE IT IS CRUCIAL TO MAINTAIN COMPREHENSIVE NOTES.'

Paramount to the resolving process is the action plan going forward. One should not underestimate the power of an honest apology. If a genuine mistake by the practice caused the complaint it is vital to be transparent outlining who was responsible and to provide assurance that this will not reoccur. This may also involve re-doing the dental treatment, suggesting to seek treatment with another member of staff, refunding the patient and so forth. It is important to keep in mind that any redress does not accept full liability and the patient is advised that it is a gesture of goodwill.

However, if there was some sort of misunderstanding then purely apologising for the inconvenience caused will often put the patient at ease. Allowing the patient to fully voice their concern and having an open conversation will allow for the situation at hand to be clear. It may also be that after a comprehensive investigation the practice is not at fault then the patient needs to be informed of this.

In any case the resolution of the complaint and the action plan will be individualised to the patient who raised the concern.

Follow-up

A follow-up after a complaint is of great importance; this will allow for the rebuilding of the relationship with the patient. This will demonstrate to the patient that the practice reflected on the complaint and acted upon it. It will re-instil their confidence in the dental professional or dentistry as a whole and may act as an invitation back to the practice. If they do return to your practice one must be cautious not to consciously or subconsciously have a bias against them as a patient.

'A FOLLOW-UP AFTER A COMPLAINT WILL ALLOW FOR THE REBUILDING OF THE RELATIONSHIP WITH THE PATIENT. THIS WILL DEMONSTRATE THAT THE PRACTICE ACTED UPON IT.'

If on the other hand the patient remained dissatisfied after the proposed resolution then it is important to act in a professional manner and apologise that the practice was not able to resolve the patient's complaint to their satisfaction. Do not use this as your last opportunity to retaliate but rather as an opportunity to maintain your professional dignity.

Learning from the complaint

In the end a complaint should be used as a learning experience. It is fruitful to appropriately reflect on the entire situation to consider how the complaint initially arose, the manner in which it was handled, the resolution, how effective was the practice policy and procedures, ways in which anything can be improved and then making the required changes.

Conclusion

It is the hope that the reader has gained a better understanding and appreciation of complaints handling at the dental practice. Throughout the whole interaction communication skills, verbal, written and non-verbal, are of primary importance. All dental professionals and staff at the practice must be trained in complaints handling so that the patient will be approached professionally, consistently and seamlessly.

bdjteam201730

Is regulation hampering direct access?

By dental therapist **Fiona Sandom**[1]

So here is the thing, we have dental inequalities, we have healthy, wealthy people clogging up the dental system, children who experience dental caries having much more disease present than ever before, we have hospital extractions due to dental caries as the number one reason children are admitted for a general anaesthetic.

Let's wind back to 2013 and the excitement we all felt when the General Dental Council (GDC) lifted the restrictions on dental hygienists and dental therapists so we could see a patient without a dentist first being involved. That 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. So let us recap on those issues and where we are with them.

NHS regulations

First: National Health Service Regulations: it was realised that dental hygienists and dental therapists were not able to open a course of treatment: only a dentist with a performer number could do so and all those three monthly scale and polishes that we had been doing would now require the dentist to see the patient first to do a full clinical examination. I am sure like many, I was under the assumption that as long as I had a prescription for the appointment, then that was fine!

'HOW CAN YOU WORK AS A DENTAL THERAPIST, PROVIDING RESTORATIONS ON TEETH WITHOUT LOCAL ANAESTHETIC?'

Whilst there are mumblings that things will change with the new contract, I am not very hopeful that we will be given performer numbers. We have to remember that the four nations all have different contracts and while England and Wales are pretty similar, Northern Ireland and Scotland are not. At the British Society of Dental Hygiene and Therapy (BSDHT) conference in November we heard from the four Chief Dental Officers, who are all looking at contract reform and hoping to deliver a contract that is suitable for their demographic and one that increases the use of skill mix. So the situation remains the same, unless of course you work outside the NHS.

Radiography

Second: Radiography: there was some confusion whether dental hygienists and dental therapists could 'prescribe' radiographs. Despite the GDC including this as an extended duty in our scope of practice, other rules and regulations were not so clear. The most recent (2001) National Radiation Protection Board (NRPB) guidance states that: 'It is not permissible for a PCD [professional complementary to dentistry … now DCP or dental care professional] to act as a referrer.' Due to this ambiguity the GDC was contacted directly and a response stated that legal advice had been sought and the GDC was satisfied that therapists and hygienists could act as a referrer. This was due to amendments made to the 2006 IR(ME)R regulations which state the referrer must be a registered healthcare professional and that:

'Registered healthcare professional' means a person who is a member of a profession regulated by a body mentioned in section 25(3) of the National Health Service Reform and Health Care Professions Act 2002

According to the GDC, this covers dental therapists. As the 2001 NRPB guidance is based on the previous IR(ME)R (2000) regulations, the GDC is satisfied that their guidance conforms to the most recent IR(ME)R guidelines. So the advice is that provided you

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have suitable training and are competent to do so, dental hygienists and dental therapists can refer and justify radiographs and interpret them within their scope of practice, but we must close the process by getting a dentist to report on the film.

Prescription only Medicines

Third: Prescription only Medicines (PoM): well what a palaver this has been! How can you work as a dental therapist, providing restorations on teeth without local anaesthetic? How can you treat a deep periodontal pocket in a patient who has sensitivity? How can you apply fluoride varnish to a high-caries-risk child? The answer is that you can't, not without a prescription from a dentist. This is due to the complex regulations around medicines. We were included on the list of healthcare professionals who could administer certain drugs under a Patient Group Direction (PGD). These proved difficult to obtain as they needed to be individually written involving a dentist and ideally the hygienist or therapist and then signed off by a pharmacist. In my experience PGDs are restrictive, due to the inclusion and exclusion criteria they contain. We are now in the process of applying for exemptions to PGDs to allow dental hygienists and dental therapists to administer local anaesthetic and fluoride varnish. Michaela ONeill and I, as immediate past presidents of our respective organisations, have been tasked with working on this so hopefully this issue will be resolved, however like most things in dentistry the wheels of motion are slow and it will be a couple of years at least before change occurs.

Skill mix research

There has also been a lot of research into skill mix and the safety and efficiency of using dental hygienists and dental therapists. In the *British Dental Journal*, Macey and Glenny of Manchester University and Brocklehurst of Bangor University recently published the results of a feasibility study: 'assessing the efficacy and social acceptability of using dental hygienists-therapists as front-line clinicians.'[1] This is very interesting reading; adult NHS patients were randomised into three arms in two dental practices. The first group of patients saw the dental therapist for a check-up, the second group saw a dental therapist and the general dental practitioner alternately and the third (control) group saw only the general dental practitioner for their check-ups. The study ran for 15 months.

The primary outcome measures of the study were patient recruitment, retention and fidelity. The views of the patients were recorded to determine the social acceptability of the intervention. Fifteen patients were interviewed in the qualitative study and supported a team approach to the provision of check-ups in the NHS. The conclusion of this study highlights the potential for the greater utilisation of dental therapists in providing routine check-ups. Importantly for me it also shows that there is patient acceptability for dental therapists to perform tasks that general dental practitioners have traditionally been undertaking.

A de-skilling workforce

Regulations are hampering direct access and that is frustrating, but even more so is the fact that we have a workforce ready and able to help deliver care and improve access who in some cases are de-skilling as they cannot find work as dental therapists.

I know of dental hygienists and dental therapists working directly in private practice which is a great development, but I find it sad that the whilst the NHS contributed to the education of dental hygienists and dental therapists, we are still unable to work within it directly to our full scope of practice, helping to educate, prevent and treat dental disease in the more vulnerable demographic who most need and rely on NHS services.

'WE HAVE A WORKFORCE READY AND ABLE TO HELP DELIVER CARE AND IMPROVE ACCESS WHO IN SOME CASES ARE DE-SKILLING AS THEY CANNOT FIND WORK AS DENTAL THERAPISTS.'

1. Macey R, Glenny A M, Brocklehurst P. Feasibility study: assessing the efficacy and social acceptability of using dental hygienist-therapists as front-line clinicians. *Br Dent J* 2016; **221:** 717-721. *Also published in* BDJ Team *this month - February 2017.*

bdjteam201731

ARTICLE

Assessing the efficacy and social acceptability of using hygienist-therapists as front-line clinicians

R. Macey,[1] **A. M. Glenny**[1] and **P. Brocklehurst**[2]

report the patient-perceived acceptability of dental hygienist-therapists when completing routine dental examinations.

Background

For state-funded health systems, it is important that the clinical workforce has the right number of people with the right skills in the right place at the right time to provide the right services to the right people.'[1] One method of achieving this is to fully utilise all the members of the health-care team and explore new potential roles to reflect changes in population need.

The oral health of the adult population in the United Kingdom has been improving decade upon decade.[2] The levels of both dental caries and periodontal disease have fallen and 90% of the adult population now have more than 21 teeth.[3] Of the £3-4 billion spent annually on NHS dentistry, 90% of these costs arise from routine care provided by general dental practitioners (GDPs) in 'high-street' dental practices.[4] Over 50% of this NHS activity relates to the GDP undertaking a check-up without the patient requiring any further treatment.[4] As population health improves further, it is likely that more regularly attending adult patients will only require a check-up in the future.[5,6] This raises a question about the rationale of using the most expensive resource (the GDP) to undertake this task, when other members of the dental team could be used safely, for example, dental hygienist-therapists (HTs).[7–16]

Such an approach has the potential to release resources at a practice level and also increase the capacity to care for those who currently don't access services, thereby reducing the efficiency, cost-effectiveness and equity of NHS service provision.[5,17] HTs also adopt a more preventive approach, when compared to many GDPs, as their clinical training focuses on prevention rather than surgical intervention.[8,18,19] However, although intuitive, using a less expensive resource to undertake a clinical task may not always result in a cost-saving.[20] Less experienced staff may take more time to reach a diagnosis and see fewer patients per session. They may also use more consumables or over-refer.[19] A further substantive barrier to using HTs as a front-line clinician is the social and professional acceptability of the model for patients and GDPs, although the literature would suggest that the use of HTs is accepted by the majority of the population.[21,24] This relates to traditional roles of utilisation. Other surveys have identified substantial negativity[25] and a lack of understanding of HTs' roles and responsibilities.[26,28] The evidence from medicine suggests that patients quickly adapt to new roles within primary health care,[20,29] but regular adult dental attenders may react differently should the HTs adopt a more front-line role.[30]

To test the hypothesis that HTs could offer a cost-effective and acceptable alternative to GDPs when undertaking the check-up, an experimental design is required, such as a pragmatic randomised controlled trial. This was recommended by the Galloway review and again reiterated by Turner *et al.*[8,19,31] The aim of a definitive trial in this context would be to determine whether the standard of oral health differs over the trial period when patients see a HT compared to a GDP for their regular dental check-up, evaluating both the costs and effects of using the HT as a front-line clinician. However, many of the key parameters are unknown, for example, retention and recruitment rates and treatment fidelity.

The aim of this study was to assess the feasibility of undertaking a full trial; estimate retention, recruitment, treatment fidelity and determine the acceptability of the intervention to patients and clinicians alike.

Methods

The study was approved by West of Scotland Research Ethics Committee under a proportionate review (14/WS/1047).

Participants and setting

The eligibility criteria of the feasibility study were designed to ensure that participants were regularly attending adult patients, representative of the group that consume the bulk of NHS resources for the check-up.[17,32] The inclusion criteria for practices were:

[1] *University of Manchester, School of Dentistry, Oxford Road, Manchester, M13 9PL;* [2]*Bangor University, Director of NWORTH Clinical Trials Unit and Honorary Consultant in Dental Public Health, The Normal Site, Holyhead Road, Gwynedd, LL57 2PZ*

- At least half of regularly attending adult patients seen within the NHS
- Employment of a HT with at least two years of service
- Support of a practice manager.

Patient inclusion criteria were:

- NHS patient
- Adult patient of at least 18 years of age
- Regular attender (attended for at least one check-up within the previous two years)
- Dentate or partially dentate
- Asymptomatic on presentation to the first check-up.

Edentate and patients presenting with pain or problems were excluded.

Sample size

The power calculation accounted for the lowest expected effect in the outcome measures utilised. A sample size of 60 provided sufficient power to estimate a recruitment rate of 50% to within a one-sided 95% confidence interval of 10.62%.[33]

Participant recruitment

An introductory letter and participant information sheet was issued as part of the standard dental check-up process and was followed up by a telephone call, one week later. If verbal consent was provided then the patient was given an appointment to attend a designated clinical session. Upon attendance informed written consent was obtained by a trained member of the research team. Concealed randomisation was performed by the research team, to one of the three research arms: (i) HT only; (ii) GDP then HT; and (iii) GDP only.

Table 1 Results of recruitment rate and different recruitment methods

Recruitment method	Practice 1 recruitment rate	Practice 2 recruitment rate	Total recruitment rate
Letters	3/63 (4.6%)	0/40 (0%)	3/110 (2.7%)
Telephone calls	27/29 (93.1%)	7/11 (63.6%)	34/40 (85.0%)
Face-to-face	0/0 (0%)	23/28 (82.1%)	23/28 (82.1%)
Total recruited	30/92 (32.6%)	30/86 (34.9%)	60/178 (33.7%)

Table 2 Results of retention of patients

	Retention at Appointment 2	Retention at Appointment 3
Arm 1: HT only	15/20 (75.0%)	12/20 (60.0%)
Arm 2: GDP / HT (alternate)	14/20 (70.0%)	12/20 (60.0%)
Arm 3: GDP only	18/20 (90.0%)	14/20 (70.0%)
Overall	47/60 (78.3%)	38/60 (63.3%)
Chi square test	P = 0.279	P = 0.574

Intervention

Following written consent, the patients attended their routine dental check-up appointment and the Study Record Sheet (SRS) was completed. If the patient was healthy and no further treatment was required, then the patient returned to the recall list, to be contacted again in six months using a modified recall letter and follow-up telephone calls. Where treatment was deemed necessary by the front-line clinician, patients were referred to the relevant practitioner, based on their Scope of Practice.[34] The study ran for 15 months.

'THE AIM OF A DEFINITIVE TRIAL WOULD BE TO DETERMINE WHETHER THE STANDARD OF ORAL HEALTH DIFFERS WHEN PATIENTS SEE A HT COMPARED TO A GDP'

Outcome measures

The primary outcomes for the study were:

- Recruitment rate
- Retention rate
- Treatment fidelity.

Secondary outcomes related to pragmatic measures of oral health, as identified by the clinicians' examination at the check-up:

- Proportion of teeth with at least one site that bleeds on probing (BoP)
- Proportion of teeth with at least one site that is above 3.5 mm (partial disappearance of the black band of the Basic Periodontal Examination (BPE) probe)[35]
- Proportion of teeth with at least one site per tooth that had visible plaque
- Proportion of teeth with active caries, defined as frank cavitation into at least the enamel (white spot lesions were also noted on the SRS).

Qualitative interviews

In parallel to the feasibility study, an opportunistic sample of patients was recruited for semi-structured interviews. These were recorded digitally then transcribed verbatim for thematic analysis. The principle of saturation was used to determine the final number of interviews undertaken.[36] To facilitate triangulation, the transcripts were coded separately by different members of the research team.[37,38] Constant comparative analysis was utilised to allow for any

unexpected topics to be fed back into the topic guide and inform future interviews.

Results

Recruitment

Two practices were identified that had participated in previous research[39] and each successfully recruited 30 patients. The overall recruitment rate was 33.7%, however, the method of recruitment had an influence (Table 1). One hundred and ten letters were distributed to practice patients and only resulted in three recruited patients (2.7%). The second method utilised follow-up telephone calls and reported a recruitment rate of 85%. The third method was the use of face-to-face invitation. One practice, recruited 23 of its 30 patients using this method (recruitment rate of 82.1%), the other practice did not utilise face to face recruitment. The overall recruitment rate through direct contact with patients, either by telephone or by a face-to-face invitation, was 83.8% (57/68).

Retention

Over the 15-month period, three recall appointment cycles were employed by the feasibility study. Of the initial 60 participants 47 attended the second round of routine examinations (78.3%) and this reduced to 38 patients at the final round of routine examinations (63.3%), with very little difference between the arms of the study (Table 2). The reasons given were difficult to ascertain as 15 patients did not respond to any follow-up letters or telephone calls. Four patients were blocked by the practice for routinely failing to attend appointments, two patients left the area and one had become too ill to attend the dental practice.

Fidelity

Treatment fidelity was at a consistently high level across all three rounds of check-up appointments. Overall, this was 94.7% for the study. At baseline, all SRSs were completed in full. In the second round of check-up appointments, only one record sheet was missing data in the BoP, plaque and pocketing section (Table 3). In the final round of check-up appointments, only two forms were not completed in full.

Clinical outcomes

Table 4 presents the proportions of sites with BoP, plaque, pocketing and caries at each of the appointment sessions. The proportion of sites with BoP was 46.7%, 14.5% and 32.1% in Arms 1, 2 and 3 respectively; plaque 68.2%, 43.7% and 60.9%, pocketing 23.0%, 10.9% and 24.3%; caries 1.7%, 1.4% and 1.9.

Table 3 Results of fidelity

	Fidelity Appointment 1	Fidelity Appointment 2	Fidelity Appointment 3
Practice 1	30/30 (100%)	24/24 (100%)	17/18 (94.4%)
Practice 2	30/30 (100%)	22/23 (95.7%)	19/20 (95.0%)
Overall	60/60 (100%)	46/47 (97.8%)	36/38 (94.7%)

Table 4 Proportion of sites with bleeding on probing (BoP), plaque, pocketing (greater than 3.5 mm), caries across the three arms of the study

	Arm 1: HT only	Arm 2: GDP then HT (alternate)	Arm 3: GDP only
Proportion of sites with BoP (%)			
Appointment 1: Baseline	213/478 (44.6)	87/506 (17.2)	142/535 (26.5)
Appointment 2: Follow up	162/406 (39.9)	122/312 (39.1)	129/486 (26.5)
Appointment 3: Outcome	136/291 (46.7)	69/284 (14.5)	119/371 (32.1)
Proportion of sites with plaque (%)			
Appointment 1: Baseline	289/478 (60.5)	227/506 (44.9)	301/535 (56.3)
Appointment 2: Follow up	196/406 (48.3)	146/312 (46.8)	217/486 (44.7)
Appointment 3: Outcome	197/291 (68.2)	124/284 (43.7)	226/371 (60.9)
Proportion of sites with pocketing (%)			
Appointment 1: Baseline	55/478 (12.0)	53/506 (10.1)	97/535 (18.1)
Appointment 2: Follow up	52/406 (12.8)	29/312 (9.3)	90/486 (18.5)
Appointment 3: Outcome	67/291 (23.0)	31/284 (10.9)	90/371 (24.3)
Proportion of sites with caries (%)			
Appointment 1: Baseline	11/478 (2.3)	6/506 (1.2)	14/535 (2.6)
Appointment 2: Follow up	4/406 (1.0.)	5/312 (1.6)	9/486 (1.9)
Appointment 3: Outcome	5/291 (1.7)	4/284 (1.4)	7/371 (1.9)

Results of qualitative interviews with patients

Of the total sample of 60, 15 patients were interviewed before no new themes emerged. Patients had a mean age of 52.5 years and 60.0% of interviewees were female. Forty-seven percent of interviewed patients were from the 'HT only' group, the remainder being split equally between the 'alternate' and 'GDP only' group. Patients were interviewed immediately following the routine examination at check-up appointments two

Table 5 Coding frame

Themes	Codes	Example
1. Beliefs of patient which inform acceptance of HT	(a) HT skill level	'[they] know what they're doing. That's the main thing'
	(b) HT qualities	'I just feel…A bit more relaxed, yes, because you think well, this isn't the dentist who's going to drill. It's a bit more, yeah, at ease'
	(c) Trust in system	'I sort of hoped that the system or the therapist themselves would know whether it's going to be something that's in their capability'
	(d) Trust in practice	'If I come to this practice I put my faith in them because they are doing my teeth a great'
	(e) Comparison to medicine – embracing teamwork	'the nurses do a lot of…practice nurse do some of the treatments. And, I think that this is what they're talking about'
	(f) Training explanation/ acceptance	'he explained that they are properly qualified, that the people who are doing the check-ups are qualified'
	(g) See benefit in role substitution	'it, sort of, takes the pressure off the dentist and leaves them to do the dental work… I think it's a great idea'
2. Impact of patient involvement in study	(h) Patient experience – trust in HT	'the dentist came out and explained to the therapist.so the therapist is learning from the dentist….I wouldn't put trust on a therapist at this point in time'
	(i) Positive feedback on HT check up	'I may have had some reservations maybe before I'd seen the therapist, but have been very happy'
	(j) Which is the best method, GDP only, HT only, alternate	'I suppose in the perfect world, you know, a mix of both would be good, but I've sort of got faith in the system that whether seeing the dentist or therapist'
	(k) Difference in payment – are dentists worth more?	'doesn't make any difference….If you're getting the same treatment by somebody that's qualified I really don't see what difference it makes'
3. Patient's preferences	(l) Prefer HT or GDP	'I don't care as long as they do the job and do what is good for me or whatever I'm not bothered'
	(m) Seeks consistency in practitioner	'I think if you were seeing a different one every single time and you're having to go through, you'd probably lack a bit of confidence'

or three. The transcripts were grouped into 13 codes and three emerging themes (Table 5). Patients showed a belief in the HT's skill level and an embedded trust in the health care system to ensure patient safety. There was also an acceptance of HTs when performing the dental check-up and patients appreciated the alternate pathway, particularly the potential for a second opinion. In contrast, two patients showed a strong preference for continuity care with either GDP or HT. The majority of patients expressed the view that the same payment should be made irrespective of who conducted the check-up.

Discussion

The aim of this study was to assess the feasibility of a definitive trial to evaluate the costs and effects of using HTs to undertake the check-up and the results appeared to be positive. When the recruitment strategy employed direct contact (telephone or face-to-face), the recruitment rate was 83.8%. This is consistent with the literature.[40,41] Failure to attend for a routine check-up appointment is a common concern for all 'high-street' NHS dental practices,[42] so retention was always considered to be more of a challenge. Many adult NHS patients on a six-monthly recall strategy for their check-up appointment will fail to respond to reminders and commonly attend between six and 12 months after their previous appointment.[42] This is particularly common in areas of social deprivation. Due to constraints on the time frame of this feasibility study, deadlines for the second and third examination were imposed and a failure to attend at this point was thereby classed as a loss-to-follow-up. Despite this the retention rate was 63.3%, which suggests that a definitive trial is possible. It is anticipated that the longer timeframe in a full trial would allow for slippage from the six-monthly routine check-up appointment cycle.

The strength of this study was this it offered a unique opportunity to assess the recruitment, retention, fidelity and acceptance of patients when using HTs to undertake the routine check-up. Existing evidence suggests that HTs are socially acceptable, but the use of HTs as a front-line clinician undertaking routine check-ups has not been explored.[21,23-25,43] The results from this study are encouraging, as undertaking the routine check-up has traditionally been seen as the preserve of the GDP.

Overall, the views of patients were positive. Points of particular interest were that the majority felt that the same amount should be charged for a routine check-up with a HT, compared to a GDP. There was a consensus

that, if given the option, patients would prefer to have continuity of care. However, there was also an understanding that this may not be feasible within the confines of a state-funded system.

Saturation was achieved after a relatively low number of patient interviews. The reason for this could be that the practices involved in this study have utilised H-Ts for many years, with both practices allowing H-Ts to complete restorations which is more unusual nationally.[6,18] Despite this, the evidence gathered supports the findings relating to patient acceptance of H-Ts within the existing literature.[21,23-25,44] Furthermore, it confirms the acceptability of H-Ts when completing tasks previously undertaken by GDPs.

Conclusion

This study highlights the potential for greater utilisation of H-Ts in the routine dental check-up. A randomised control trial to fully investigate the potential of H-Ts to complete the routine examination appears feasible.

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This article was originally published in the BDJ *as* Feasibility study: assessing the efficacy and social acceptability of using hygienist-therapists as front-line clinicians. *Br Dent J* 2016; **221:** 717-221.

bdjteam201732

BDJ Team CPD

CPD questions: February 2017

CORE CPD: ONE HOUR

Radiography for the dental team

1. Which of the following is **not** a source of natural radiation?

A) granite

B) certain foods

C) radioactive waste

D) the Earth's atmosphere

2. a) Skin erythema is an example of a tissue reaction to ionising radiation.
b) Stochastic effects only happen following a very high dose of radiation

A) both statements are correct

B) both statements are incorrect

C) only statement a) is correct

D) only statement b) is correct

3. Select the **incorrect** statement:

A) new members of the dental team should have a rigorous radiation safety induction programme

B) only dental nurses with extended duties in radiography need to be aware of radiation safety

C) some dental hygienists and therapists receive dental radiography training as part of their primary qualification

D) it is all DCPs' duty to monitor the practice environment for radiation risks and hazards

4. Which of the following should a Quality Assurance (QA) programme ensure?

A) that there are no errors in operator technique

B) good equipment maintenance

C) that the correct patient dose/ exposure is given

D) all of the above

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