BDJ Team
APRIL 2018

# CONFIDENCE IN LA



BDA
British Dental Association

CONTENTS

# April 2018

## Highlights



## Regulars



## In this issue





# Ed's letter

This issue of the *BDJ Team* holds a veritable smorgasbord of content. We kick off with Christine Macleavy's potted version of her training course refresher on gaining confidence in administering local anaesthesia. This is essential reading for dental hygienists and therapists and will earn all readers one hour of verifiable CPD.

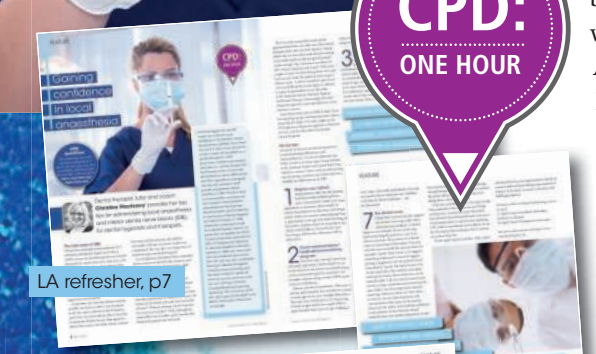
The British Society of Paediatric Dentistry sent *BDJ Team* the special article in this issue about the best advice to give parents on infant feeding and weaning, to keep young children's teeth in tip-top condition. Also with child patients in mind, we present a taster of the Child Protection Company's training courses for dental teams, with a very helpful sample case study.

What duties can orthodontic therapists carry out, and are they satisfied with their roles in UK dentistry? Both of these questions are answered in this issue, with the first part in a new series of focuses on scope of practice, and a *BDJ* research article presenting the results of a workforce survey.

Perhaps becoming an orthodontic therapist is on your radar? We meet dental care professionals from all areas of dentistry here in *BDJ Team*. Amy Gardiner, 33, balances being a mother of three and wife of one with working as a treatment coordinator and implant/sedation lead dental nurse at a practice on the Worcestershire/Shropshire border. Amy thrives on the diversity in her working life and enabling patients 'to get the best possible quality of care and thorough education towards making the right decisions in their treatment'.

What do you enjoy most about your role in dentistry? Drop me a line or comment on the Facebook page (www.facebook.com/bdjteam).

Milder weather and lighter nights are finally here: happy spring!

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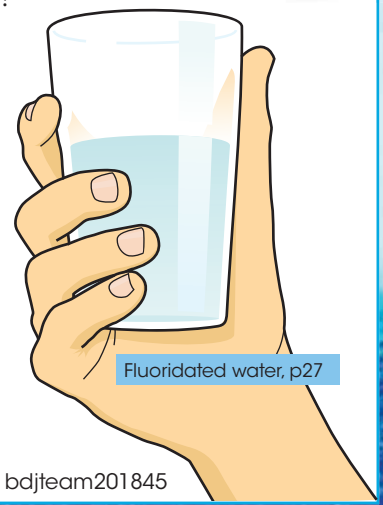

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# Letters

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## 'It is just not possible to do a great job'

Dear Editor,
I would like to explain why I think, as an experienced dental hygienist, that longer appointment time slots are better all round and more profitable.

On an average day you see 14 patients in a 9-5 day with 30 minute slots.

With 45 minute slots you would see nine patients in the same amount of time.

With the longer appointment slots you would make the same money per appointment as the appointments would be charged appropriately and therefore the amount of money you would save seeing an average of 25 patients fewer per week is huge.

With an average of five patients fewer per day with no less remuneration on the appointment costs, the amount that would be saved at the end of each month is substantial. Even if the 45 minute appointment slot was charged at less than what one and a half 30 minute appointments would amount to, money would still be saved.

What would be saved in consumables in a single day based on having 45 minute appointment slots as opposed to 30 minute appointment slots is the following:

- 16 pairs of gloves (based on a hygienist working alone without a nurse therefore at least three pairs of gloves per appointment for setting up ... gloves/ operating gloves/cleaning down gloves/ end of day emptying waste and changing bins etc)
- 20 wipes (use at least four per appointment)
- Five saliva ejectors a day
- Tissues
- Five bibs
- Ten stera pouches
- Five prophy brushes
- Five TePes
- Floss
- Mouthwash
- Five plastic cups.

What would be saved in general is the following:

- Clinical waste bags
- General waste
- Sterilisation use and electricity
- Paper and printing of treatment plans and receipts
- Complaints.

***'WHEN A DENTAL HYGIENIST WORKS ALONE AT THE PACE OF 30 MINUTE APPOINTMENTS BACK TO BACK, THE AMOUNT OF THINGS THAT GO WRONG DUE TO RUSHING IS VAST'***

When a dental hygienist works alone at the pace of 30 minute appointments back to back, the amount of things that go wrong due to rushing is vast and this ALWAYS results in either time lost (eg running to the steriliser for more equipment) or money lost (eg have to change gloves to pick something up or wipe something down that has been dropped due to the fast, relentless pace).

However, this stands for any appointment times that are back to back, as the slot is for the clinician and not for the patient. If patients are told that they will be getting '30 minutes' or '45 minutes' and the next patient booked in believes they will be in the chair at that same time the last patient has been told they will be treated until, it is very misleading and completely impractical.

Based on a 45 minute appointment slot, the patient should be told that they will be in and out within a certain amount of time if they ask (otherwise it is simply a 'hygiene appointment') but that the appointment is tailored to their needs and will be around 30-35 minutes. Of course if longer or less time is then needed then it is there to be taken and this is doing the best for the patient and will mean there are no complaints regarding time.

Dental hygienists want to provide the absolute best they can and the way that many practices are running the hygiene book, it is just not possible to do a great job as well as write thorough notes and follow all protocols required on time.

The patients would soon be happy to accept the appointment and cost difference when they experience the difference of having a smooth appointment with happy staff that are not rushing or stressed and they get the quality they deserve.

Once the appointments are set as a 45 minute slot each, the patients have been informed appropriately of their time, and the hygiene books are fully booked and for longer, the practice will run much more smoothly. Staff will be happier and they would be maintained for longer which is in the best interests of patient continuity of care. I for one would also be happy to work longer hours if this was the arrangement because it would not be so exhausting and stressful.

Unfortunately I am now looking for an alternative career which is very sad and this is because the work is becoming more difficult by the day with most appointments having been reduced to 30 minutes across London.

***Name supplied, by email***

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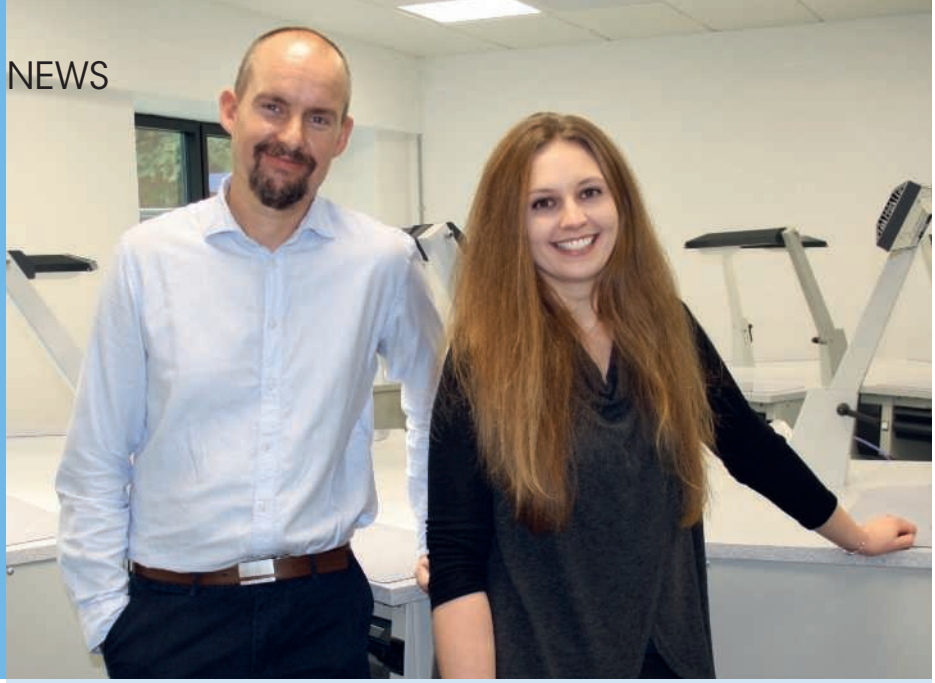

# DENTAL NURSE BECOMES DENTAL TECHNOLOGY APPRENTICE

On 5-9 March 2018 Barnet and Southgate College celebrated National Apprenticeship Week (NAW) with a number of activities. The theme this year was 'Apprenticeships Work', showcasing how apprenticeships work for individuals, employers, local communities and the wider economy. A wide array of industry areas are covered in a number of apprenticeships at the College, including dental technology.

Now in its 11th year, NAW 2018 brings together everyone passionate about apprenticeships to encourage more people to choose apprenticeships as a fast-track to a great career and business growth.

Apprenticeships often open doors into a breadth of careers, including dental technology. Barnet and Southgate College's Abby Pulham (pictured on the right) found that to be the case. She commented:

'I'm 26-years-old and studying for the higher level dental apprenticeship at Barnet and Southgate College. I left school at 16 and went to a local college and tried my hand at a number of jobs. I was a dental nurse for four years and whilst there I really wanted a change, so I started looking at other opportunities in the industry and started contacting dental labs in the area. That's when I contacted Adam Norris for a work placement, and I was successful so started working for his dental laboratory as an assistant trainee dental technician. My course is three years long coming in one day a week to the Southgate campus dental facility and four days a week I'll be working in Chelmsford. The degree level apprenticeship really appealed to me as I didn't have a formal qualification as such and didn't go on to university after school in a conventional route, so I really wanted to get a degree under my belt. I'm enjoying my course and gaining a qualification whilst earning a wage at the same time.'

Adam Norris (pictured on the left) owns Adam Norris Dental Laboratories and employs Abby. He said:

'We're based in Chelmsford and opened in 2002. Barnet and Southgate College informed me of their new dental facility and the range of courses they would offer. It sounded fantastic, a lot of investment and thought has clearly gone into the facility and the types of courses delivered. The apprenticeship really appealed to me as I wanted one of my employees to continue working with me, but train at the same time. I'm a clinical dental technician and traditionally we train up technicians from scratch or they come to us from other commercial laboratories. We do all of our own clinical work at our organisation so we see our own patients directly, we specialise in prosthetics and also have a denture clinic, so we have private clients. I needed a fully trained technician, which would look at the clinical aspects as well. Abby had a plan to train as a technician as well, so it was a good opportunity to sign up an apprentice. The Barnet and Southgate dental facility is really convenient for us. Often laboratory owners send their people off for training and don't have much contact with the provider, but I want to be more hands on and see what Abby will be doing at College as part of her higher level apprenticeship. It makes me want to come back and train as everything is brand new and state-of-the-art.'

# HELP KICK OFF A SUMMER OF SMILES


The Oral Health Foundation has announced the return of National Smile Month, which this year will take place between 14 May and 14 June, aiming to increase awareness of important oral health issues and make a significant difference to the well-being of millions of people.

Supported by thousands of individuals and organisations, National Smile Month promotes three key messages at the heart of good oral health:

- Brush your teeth last thing at night and on at least one other occasion with a fluoride toothpaste
- Cut down on how much and often you have sugary foods and drinks
- Visit your dentist regularly, as often as they recommend.

The charity is calling on dental, healthcare, education professionals and support from the voluntary sector to help spread smiles and key oral health messages even further than ever before.

Chief Executive of the Oral Health Foundation, Dr Nigel Carter OBE, said: 'Last year, the campaign reached unprecedented levels, with in more than 4,000 organisations pledging their support in promoting better oral health. This year we want it to be even bigger and better.

'Much of the credit for the improvement we have seen in oral health over recent years is down to hard working supporters and volunteers who reach out to their local communities.

'With your support the campaign reaches more than 50 million people each year and we are delighted to see how many of you actively get involved in National Smile Month.'

National Smile Month 2018 sees the return of the now iconic Smiley, something which Dr Carter believes symbolises exactly the purpose of the campaign.

To find out more about the campaign and to get involved, visit www.smilemonth.org.

# BAD SCIENCE: OIL PULLING

Is oil pulling a miracle cure, snake oil or harmless and healthy? asks **Anthony King**.

### *What is oil pulling?*

This is the practice of swirling oil around your mouth and then spitting it out. It usually involves coconut oil, sunflower oil or sesame seed oil. Rinsing should be continued for perhaps five to 20 minutes, so that the edible oil is pulled through the teeth and mouth.

### *Where does the practice of oil pulling come from?*

A traditional remedy originated from traditional Ayurvedic medicine in India. It has become popular after its benefits were extolled online. Promoters say the oil pulls out toxins, which are known as 'ama' in Ayurvedic medicine.

### *What are the reputed benefits of oil pulling?*

Various websites advocate coconut oil pulling as an effective way to whiten teeth and remove bacteria. Some advocates online suggest it can treat tooth decay, kill bad breath, heal bleeding gums, prevent cavities and even prevent heart disease. There is a book, entitled *Oil pulling therapy*,[1] that promises it exerts a powerful cleansing and healing effect on the mouth and sinuses and the rest of the body.

### *Is there evidence for oil pulling offering benefits to dental hygiene?*

There are plenty of testimonials available online from people who praise its use, but scientific evidence is lacking. One recent review[2] found that oil pulling might be as effective as chlorhexidine mouthwash in reducing plaque. First study author, Oghenekome Gbinigie at the Centre for Evidence-based Medicine, University of Oxford, UK, said: 'At present there isn't enough information about the benefits and potential harms of oil pulling to help us decide whether or not we should take on daily oil pulling, in addition to tooth brushing.'

Another review[3] looked at the oil pulling literature and identified 21 studies, but concluded that only six had proper study design. The reviewer concluded that the studies were unreliable, sometimes due to poor study design or small sample science. There is a need for bigger trials, of longer duration and of high quality.

### *Are there potential downsides for patients using oil pulling?*

There are few reported side effects from oil pulling, but some have drawn attention to case reports of lipoid pneumonia associated with oil pulling or mineral oil aspiration. Upset stomach has also been reported. More trial data is required to provide evidence of possible side effects.

### *Is oil pulling an alternative to brushing or other dental hygiene practices?*

Though some oil pulling advocates say it can be used instead of tooth brushing, many say it should be used together with regular dental hygiene practices. There is no evidence to support it as a substitute to tooth brushing. The American Dental Association has stated that there is insufficient research to support the practice of oil pulling.

### *Can oil pulling be labelled as pseudoscience?*

The author of the book *Oil pulling therapy,*[1] Bruce Fife, says it can help with allergies, asthma, chronic fatigue, diabetes and migraine headaches. Others[4] say it can improve acne, strengthen gums and jaws and heal bleeding gums. The expansiveness of the claims seems suspicious.

There is no evidence that oil pulling can prevent cavities, detoxify the body, strengthen teeth, treat cancer or reduce headaches, despite such claims made online. Many of these reputed benefits reek of pseudoscience quackery of the worse kind, promising exceptional health benefits without scientific evidence to support them.

Whether the practice of oil pulling can make a positive contribution to good dental hygiene is uncertain. A recent review[2] suggested that it may have beneficial effects in dental hygiene, but requires more rigorous and better reported clinical trials.


1. Fife B N D. *Oil pulling therapy: detoxifying and healing the body through oral cleansing*. US: Piccadilly Books, 2008.
2. Gbinigie O, Onakpoya I, Spencer E, McCall MacBain M, Heneghan C. Effect of oil pulling in promoting oro dental hygiene: A systematic review of randomized clinical trials. *Complement Ther Med* 2016; **26:** 47-54.
3. Mythri H. Oil pulling: A traditional method on the edge of evidence. *Dent Hypotheses* 2017; **8:** 57-60.
4. Dr. Axe Food is Medicine. Coconut Oil Pulling Benefits & How-to Guide. Available at: https://draxe.com/oil-pulling-coconut-oil/ (accessed March 2018).


# EXHIBITION TO FOCUS ON OUR EVOLVING RELATIONSHIP WITH OUR TEETH

The forthcoming exhibition 'Teeth' at the Wellcome Collection in London will trace 'the evolution of our relationship with our teeth and with the profession that has shaped the way we live with them - or without them'.

The exhibition, which runs from 17 May to 16 September 2018, will follow modern history's tireless pursuit of the pain-free mouth and the perfect smile. It will draw on the wealth of images, objects and artworks held in the collections held by Henry Wellcome, supplemented by loans from key collections in Northern Europe.

The BDA Museum is delighted to be lending objects to the Teeth exhibition. Highlights from the BDA collection include the dental instrument set of Sir Edwin Saunders (dentist to Queen Victoria); a denture of King William IV made by dentist Isaac Wilson of Bath; dental health education posters which are currently providing the inspiration for *BDJ* covers; 1960s dental surgery equipment; and an early portable regulating ether inhaler.

For more information on the exhibition visit https://wellcomecollection.org/press/teeth-forthcoming-exhibition-wellcome-collection.

# Gaining confidence in local anaesthesia

CPD: ONE HOUR

**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* ***https://cpd.bda.org/login/index.php***

Dental therapist, tutor and coach **Christine Macleavy**[1] provides her top tips for administering local anaesthesia and inferior dental nerve blocks (IDB), for dental hygienists and therapists.

## The early days of IDBs

I have been running local anaesthesia (LA) refresher and inferior dental nerve block (IDB) courses for dental hygienists and dental therapists for many years now, and even a few dentists have come along from time to time and enjoyed my approach.

It is reassuring for us as dental hygienists and therapists to realise that we can all lose a bit of confidence; attending a refresher course is a great way to regain that confidence and refresh our knowledge in a safe and supportive environment.

I remember my extended duties training in IDBs way back in 2003. I was fortunate to do the course with the Oxford Deanery and it was my senior dental officer from the Community Dental Service that agreed to deliver the course. Her IDBs always worked first time and the patients, all children and adults with special needs, hardly ever complained. She was also very supportive of dental therapy and dental hygiene.

As it happened, I facilitated these extended duties courses on behalf of the deanery, and ended up sitting through the lecture eight times, at eight different venues and was demonstrated on eight times.

My first IDB refresher was a couple of years later at Stoke Mandeville Postgraduate Centre - I was a little late arriving. Wayne Williams, the course lecturer, must have been introducing himself as I entered the room. He looked at me firmly and said 'Are you South African?' Without missing a beat I retorted 'Are you Gary Lineker?' Well, I thought he looked like Gary Lineker and it was the first thing that popped into my head!

[1] *Christine began her dental career as a dental nurse, qualifying in the Women's Royal Naval Service (WRNS). From there she went to New Cross Hospital in London where she qualified as a dental therapist in 1979. Since then Christine has worked clinically as a dental therapist for Northamptonshire Community Dental Service. Since 2003 (when the GDC regulations changed) she has also worked in both private and general dental practice. In 1997, Christine took a locum position, working one day a week in the paediatric department at the Eastman Dental Hospital, until transferring to the School of Dental Hygiene and Dental Therapy in 1998, where she continued to work as a dental therapy tutor for 16 years. She completed her PGCE in post compulsory education in 2003. A Postgraduate Diploma in Hypnosis applied to Dentistry followed in 2006 and since then she has studied acupuncture, NLP, CBT and has also undertaken training in Relative Analgesia. Christine enjoys lecturing and has been invited to speak all over the country, and now runs her own training company ChristineMacleavyCoaching, delivering CPD courses to DCPs. She also supports the BSDHT and BADT's 'Subscribe to Prescribe' campaign.*

Then we went around the room and it appeared that there was only one other dental therapist there; the rest were dentists. Wayne asked why we were there and what percentage of our IDBs failed or did not get the patient numb enough. The consensus was about 30-40%. Wayne asked me and I said: 'Well in the couple of years I've been doing them, I've only had one not work.' He asked me how many I did per week - I said it varied but I gave local a lot and IDBs pretty much daily, in addition to supervising students every Thursday at the Eastman School of Dental Hygiene and Dental Therapy. Interestingly the other dental therapist has since attended one of my refresher courses.

Since those early days of IDBs to date I have been picking up tips and learning from others, especially Dr Mike Gow who taught on the PG Diploma in Hypnosis Applied to Dentistry at UCL, and Dr Chris Bell from Bristol Dental Hospital.

## My top tips

So, based on 39 years of clinical experience in administering infiltrations, and interpapilliaries, 15 years of administering IDBs as well as 16 years supervising students at the Eastman Dental School and delivering refresher courses, I have come up with my top tips for giving a painless, successful injection, whether an infiltration or an IDB.

### 1 Prepare your patient

Preparation is vital. Has the patient had their tooth numbed up/been put to sleep before? Either way some explanation is necessary, either simply to inform the patient or to allay fears and dispel myths. Make sure you are using language that is appropriate to the age and understanding of the patient. Explain what you are going to do, what it will feel like ie 'fat and funny' and how long it will last for, what areas will be affected etc.

### 2 Check medical history/ medication/recreational drug use

Yes every time, boring I know but extremely important. Unfortunately we are more reticent to ask about recreational drugs, yet it is extremely import to ascertain - for example someone using cocaine will be more prone to arrhythmias.

Choose your local anaesthesia - lidocaine is still the gold standard. It is suitable for anyone over the age of two years (weight dependent). The toxic dose of lidocaine is 4.4 mg per kg of body weight which for a small child of approximately three years of age weighing 3 stone or 20 kg is two cartridges and for an 11 stone or 70 kg adult that's about 11 cartridges.

### 3 Apply topical

For IDB – apply topical on the end of a cotton wool roll and get the patient to bite on it, thereby holding it between the teeth – and wait. Lidocaine topical takes 2-4 minutes to work. Benzocaine is contraindicated for children under four years of age, nursing mothers and as an ester is far more likely to cause an allergic reaction. For infiltration, again apply topical, this time on the side of the cotton wool roll and place it into the sulcus. Wait 2-4 minutes again.

***'BASED ON 39 YEARS OF EXPERIENCE, I HAVE COME UP WITH MY TOP TIPS FOR GIVING A PAINLESS, SUCCESSFUL INJECTION, WHETHER AN INFILTRATION OR AN IDB.'***

### 4 For IDB - Look and identify external landmarks - pterygo mandibular raphe, buccal pad of fat, retro mandibular triangle and feel with your thumb for the coronoid notch

Remove the cotton wool roll and any excess topical.

Ask the patient to open as wide as they can - the wider they open the more comfortable they will be. Get good retraction and pressure with the thumb of the non-injecting hand, push firmly with the thumb and support the jaw with the rest of your fingers.

Sometimes it is a good idea to do a little rehearsal with the cap on the syringe prior to actually injecting - it helps to prepare the patient and gauge their reaction.

### 5 The injection

At the point of penetration - get the patient to open their eyes (distraction). Instead of having their eyes closed for the injection which results in the patient being internally focused, suddenly their senses are swamped with light, shade and colour.

For infiltration, inject slowly, very slowly, and use the gate control technique (slowly waggling the lip to make the injection less painful - it does work). Your aim is for the bevel of the needle to be close to the apex of the tooth you are anaesthetising or for upper teeth with two or more roots, aim in between the apices.

For IDB - advance a wide bore, long needle to 3/4 of its length - it is not necessary to hit bone (this actually damages the bevel of the needle).

Deposit 3/4 of the solution, withdraw to half the length of the needle and deposit the final quarter to anaesthetise the lingual nerve and lingual mucosa.

Push firmly with the thumb of the non-injecting hand to prevent drag and a 'ping' of the tissues as the needle is removed.

Massage with the thumb (I don't know why, maybe it is psychological - the pushing sensation the patient feels is then related to your thumb and not the injection).

Wait 2-3 minutes for infiltration and a good five minutes for IDB - use this time to chat to the patient, give oral health information, explain the length of analgesia etc.

If the lower lip is tingling following an IDB it is a good sign. If not I personally would wait up to ten minutes before giving another block. If I do, it is a back to basics moment; re-establish my landmarks, make sure my retracting thumb is in the right place. I often use my retracting thumb as a landmark - then by bisecting my thumb, I can ensure that I am in the right place. I often tell students that if they are sure of their landmarks and hit bone when the needle is barely in the tissues, they have only two options: to come out and try again or use the indirect approach.

### 6 Which local?

For IDBs this is crucial. According to the statistics Articaine is more toxic to the nerve tissue and the risk of paraesthesia higher (about the same as Citanest). Some clinicians suggest using Articaine infiltration for lower teeth rather than a block. I have never achieved sufficient analgesia to restore a lower molar on an adult with this method to be honest and my preference is to go for a block with lidocaine

every time. Chris Bell implied that Articaine was used by those clinicians not confident with their ID block technique ... one for discussion.

### 7 The dental nurse

I hope that everyone has the support of a dental nurse, especially when administering analgesia. A dental nurse is a second pair of eyes, observing and monitoring the patient in case of an adverse reaction. The presence of a dental nurse is reassuring to the patient. You may want the nurse to hold the patient's hand for example. I prefer them not to, as it suggests something unpleasant is about to happen - putting a suggestion into the patient's head immediately. I prefer the dental nurse to be 'ready', especially with children and adults with special needs whose behaviour can be unpredictable. I like my dental nurse to pass me the syringe, simultaneously removing the cap, whilst I am retracting tissues thereby ensuring a slick procedure as I don't have to remove my non-injecting hand, and can maintain a firm 'grip' on the patient (necessary for safety, and instilling confidence in the patient). Every clinician should resheath their own needle (dependent on the system used - I prefer the Ultra Safe System by Septodont which locks and is impossible to accidentally needlestick yourself).

*'I LIKE MY DENTAL NURSE TO PASS ME THE SYRINGE, SIMULTANEOUSLY REMOVING THE CAP, WHILST I AM RETRACTING TISSUES...'*

### Case study

One exception I've adopted along the way was a two injection - short needle and long needle approach.

I had a patient with Reflex Anoxic Seizure [a term used for a fit which results from a brief stoppage of the heart through excessive activity of the vagus nerve]. She was referred to the CDS as whenever she experienced pain she collapsed- and her heart stopped for approximately three minutes before restarting! She was also terrified of dentistry. My clinical director gave her to me and suggested some hypnosis in the first instance. She was 16-years-old and was happy to try, and after a few sessions of hypnosis which included ego strengthening and desensitisation, we reached the point where she was ready to have her filling done, a lower first molar.

I had also used Mike Gow's 'Six Step Needle Desensitisation' that I learnt on my PGDip in Hypnosis. Around this time Chris Bell from Bristol Dental Hospital had come up to Northamptonshire to spend a day updating CDS staff on anaesthesia and sedation. It was he who shared this technique that I used on my patient that day.

Firstly apply topical and then with a short needle and mepivacaine plain, inject half a cartridge (as if you were giving a block but only to half the depth of the needle).

Then leave it to work for a good five minutes. Then with a long needle and lidocaine give an IDB as normal. The mepivacaine has successfully numbed the whole area that the long needle will travel through. The mepivacaine plain is a closer pH to the tissues and therefore does not sting as much.

It worked like a dream and my patient had her filling done with absolutely no pain - not during the filling and certainly not during the injections.

I was convinced and have used this approach for several really anxious patients. One of the problems treating anxious patients is that they have a high expectation of pain and therefore become hypersensitive which of course results in them feeling tense instead of relaxed. It becomes a vicious cycle and a self-fulfilling prophecy.

*Christine will be holding the following courses in April:*
21 April, Local Anaesthetic Refresher, Sunbury on Thames
28 April, Stress Management, Inverness

For more information visit http://www.cmcdentalcpd.co.uk.

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## 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* ***https://cpd.bda.org/login/index.php***

*Did you see Christine's article in* Vital *in 2013? Are dental nurses fulfilled and appreciated? Christine Macleavy looks at dental nursing as a career and the role of extended duties. https://www.nature.com/vital/journal/v10/n4/full/vital1723.html*

bdjteam201851

BDA
British Dental Association

# Education for dental care professionals

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ONLINE QUALIFICATION

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(+£124 exam fee)

**40 hours verifiable CPD**

bda.org/ohecourse

# ‘No two days are **ever** the same in dentistry!’

**Amy Gardiner**, 33, is a treatment coordinator and implant/sedation lead nurse at Cleobury Dental Practice on the Worcestershire/Shropshire border. Amy completed her NVQ Level 3 Dental Nursing in 2001 and NEBDN Conscious Sedation in 2017, and is married with three children.

I get up at 7 am and have breakfast with my children (two boys and a girl), usually porridge or crumpets. I am originally from Kidderminster and now live in Cleobury Mortimer in Shropshire. I walk to work which is less than a mile away, and work Monday to Thursday from 9 am to 4 pm.

For one or two days a week I am office based, offering treatment coordinator (TCO) appointments to new and existing patients. I spend the other days in surgery, mainly implants and sedation but also general dentistry.

At my practice we have four general dentists providing a mixture of NHS and private care. We have an orthodontic specialist, an implant specialist and two dental hygienists. We have a practice manageress, a business manager and there are eight dental nurses working in rotation and also helping on reception (myself included) plus a full time receptionist.

We have a very diverse patient base, predominantly NHS, but our principal dentist has fairly recently converted to Practice Plan which has been really well received and a great success. We have implant, IV sedation and orthodontic clinics regularly and they are very popular treatment options for many patients. We are also branching out to facial aesthetics and as of this month are now Cerezen providers.

My career path was inspired by my work experience placement while still at school, at a local dental practice. My Mum was

***'MY MUM WAS MY INSPIRATION AS SHE WAS A DENTAL NURSE THROUGHOUT MY CHILDHOOD AND FOUND A LOT OF PLEASURE IN HER WORK, WHICH ENCOURAGED ME TO DO THE SAME.'***

my inspiration as she was a dental nurse throughout my childhood and found a lot of pleasure in her work, which encouraged me to do the same. In year 11 at school I applied to become a trainee dental nurse at Birmingham Dental Hospital. My application was successful and the rest is history!

I find my job very rewarding and diverse. I have been fortunate enough to work in hospital settings, dental access centres, general dental practice, specialist referral practice and also as a locum nurse throughout my career which (so far) spans nearly 17 years! Working with everyone from foundation dentists to consultant level surgeons, no two days are ever the same in dentistry!

What I enjoy the most about my job is ensuring a bridge between patient and clinician, to enable our patients to get the best possible quality of care and thorough education towards making the right decisions in their treatment, and also providing support to patients who have dental anxiety.

When I'm in the practice I usually pop home for lunch to grab a bite to eat and check on my pets.

My role within the practice is very busy and outside of work I don't have a spare minute due to having young children, but I would like to consider dental education later on, when my children are less demanding of my time. In 2004 I completed my dental radiography post-graduation certificate; I used this a lot when I worked in an orthodontic specialist practice years ago, but not so much anymore. I also completed the fluoride varnish application course through my local deanery a couple of years ago and often use the skills from this. Our practice offers high caries risk children a three-monthly fluoride visit if deemed necessary. Those of us dental nurses who are trained in fluoride varnish application take it in turns to run the fluoride varnish clinics.

I am really lucky to have an extremely supportive employer who ensures we have access to online CPD training for all mandatory subjects. We have annual CPR and first aid training; cross infection training in-house; our fire marshal provides an annual update/refresher; and we always re-enact a medical emergency scenario during our monthly practice meetings. I attend ILS [Immediate Life Support] training annually in order to comply with sedation guidelines.

I'm home by 4.30 pm every day. I love spending time with my family; we have a busy week and the weekends are no different as my boys are off playing rugby and footy, husband included as he is a football coach. My daughter has a pony who keeps us very busy!

As a rule, I am careful with my family's diet and oral health regimes. My children are allowed treats and I do let them brush their own teeth, but I keep a beady eye on them. Mind you, our staff room is always laden with snacks so it can prove quite difficult to resist temptation when I'm at work!

This year I am looking forward to a couple of music festivals and hopefully a nice family holiday before my youngest starts school in September.

I have been working really hard over the last couple of years; while studying for my sedation exam I did promise myself I would NEVER do another postgraduate course... but I could maybe be persuaded. I am really happy in my work, feel satisfied in what I do, but definitely fancy a trip out for a treatment coordinator training day!

I usually go to bed between 10 and 11 pm - ideally closer to 10 pm - this girl needs her zzz's!

*Interview by Kate Quinlan*

bdjteam201852

# Enabling parents to make the best decisions for their babies

The British Society of Paediatric Dentistry (BSPD) has produced a position statement on infant feeding.[1] In this Q&A, BSPD President and Consultant in Paediatric Dentistry **Claire Stevens** gives the background to the new guidance and sets out how dental and health professionals can help spread the word.

**Q1.** *You have just published new guidance on Infant feeding – why now?*

**A.** BSPD believes the publication of evidence-based information to support health practitioners working with young families is overdue. We have known for some time that bottle-feeding after the age of one is linked to Early Childhood Caries (ECC). Last year, important new research[2] showed that breastfeeding on demand and especially through the night after the age of one also has a potential link to ECC. Our members and others working in the dental profession see the evidence of dental decay caused either by bottle caries or extended and on-demand nursing and they are crying out for evidence-based guidance. BSPD has had the support and input of the dental leads at Public Health England in developing our position statement.

**Q2.** *How important is this advice to parents?*

**A.** My view is that it's always better to know the facts. Every few months, a mother who has just been told that the decay in her child's mouth is due to on-demand bottle or

informed choice as to how they wish to feed their child. We suggest parents try and limit on-demand feeding and try and ensure that fluoride toothpaste is the last thing on their child's teeth at night. The protective effect of fluoride cannot be over-estimated. And of course we advocate that by the age of one parents take their child to the dentist – Dental Check by One! (http://bspd.co.uk/Patients/Dental-Check-by-One)

**Q4.** *How quickly do you think parents will heed your advice?*

**A.** Now that we have relevant research, I think that word will spread rapidly. The simple message is that the age of one is an important milestone. Parents who are bottle-feeding are strongly advised to withdraw the bottle by the age of one and mothers who are breastfeeding should ideally give consideration to reducing night-time feeds.

We have had some positive comments from members of the dental team who are all aware of the importance of weaning in a way which gets children into a healthy routine.

*that exists and for clear recommendations that more research needs to be undertaken. I also welcome the uncritical approach taken by this paper. It's important for all of us advising families to present the facts. Formula bottle feeding is sometimes the path of travel and mothers who choose it or have no choice but to choose it need uncritical support.'*

### *Ms G - Oral health educator*

*'As an oral health educator I found the new guidelines on infant feeding very useful for my personal knowledge. When giving advice to patients and parents it is much easier if you have strong, current information to refer to and I found this document very user friendly with clear and precise advice.*

*'I strongly believe that education is the key; some parents will not know the risks of ECC and will think that by giving their child a healthy diet and not consuming sweets or chocolate that they do not need to worry about the child's deciduous teeth. There will also be some parents that are not aware of the risk of early childhood caries that follow family tradition. As a clinically trained person,*

**'WE SUGGEST PARENTS TRY AND LIMIT ON-DEMAND FEEDING AND TRY AND ENSURE THAT FLUORIDE TOOTHPASTE IS THE LAST THING ON THEIR CHILD'S TEETH AT NIGHT'**

breastfeeding has asked 'Why did nobody warn me?' Now we have evidence that there is a clear risk and parents and those who support them need to know the steps that can be taken to protect those emerging first teeth.

**Q3.** *Shouldn't the message always be 'breast is best'?*

**A.** Yes – it's still the right message but of course we also need to recognise that breastfeeding isn't always possible and those parents deserve our support too. After the age of one, the baby is consuming solid foods and there is an increased exposure to sugar and thus increased risk of decay. This is especially true if babies are breastfed on demand, particularly through the night. There are mothers who want to continue to breastfeed their baby after the age of one and we should respect that. However, preventive advice needs to be available so parents can minimise their child's exposure to sugar and make an

### *Mrs M – dental therapist*

*'I find it so disheartening when I see children as young as three with dental decay. Their parents are in denial because of what they have read on the internet. They will not accept that breastfeeding long-term can be a risk factor. I hope this paper will dispel myths.*

*'There doesn't seem to be much evidence-based research around regarding the cariogenicity of breast milk. I was really happy to see this paper and I hope that it will trigger further research into nursing caries.'*

### *Dr S – dentist*

*'I welcome that this fascinating paper demonstrates that there is no 'one size fits all' situation for families who may need considerable tailored and uncritical support and encouragement to do the right things to secure their children's oral and general health. Thank you BSPD for highlighting the evidence*

*working in an area with one of the highest rates of childhood caries, I am totally on board with the new guidelines and I believe that by getting the message out will benefit a lot of families.*

*'I also know as a parent myself it is hard to change habits. I believe that what we need are simple messages that we can pass on without appearing to preach. We must also be ready to recognise that it isn't always easy and ensure we don't make parents feel they are failing if their baby won't conform!'*

**Q5.** *How easy do you think it will be to get the advice out to parents?*

**A.** Some aspects of the internet make life challenging. Another factor is the power of the internet. There is an American website which says (at the time of writing) that breast milk contains protective factors against dental caries. It doesn't. The information on this site is not evidence-based. Although there is a reduced experience of ECC in

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breastfed babies up to the age of 12 months, the picture changes after baby's first birthday.

BSPD is working with a whole host of organisations to get out the Dental Check by One message, including health visitors, school nurses, doctors, midwives and pharmacists. Collaboration is key. I wouldn't call it easy, but I would say that with the right support, we can make sure parents know what to do to act in the best interests of their child.

**Q6.** *Why are your members so concerned about weaning – surely the Number One culprit in tooth decay is sugar?*

**A.** You are right that the Number One reason for the majority of referrals of children into hospitals for multiple extractions under general anaesthetics is dental decay, usually caused by the over-consumption of sugar. But weaning your baby onto a healthy, low-sugar diet is a great first step in the war against tooth decay. Sugar comes in many forms. It's not just in solid foods; sugary drinks in bottles are a factor. I frequently see patients in my clinic with rampant decay caused by prolonged bottle feeding. We call it bottle caries. Baby teeth exposed to a regular onslaught of sweet foods and drinks will be at risk of decay. Breast milk is sweet and over the long term when consumed on demand can cause the equivalent of bottle caries. Just recently I saw a frazzled mother on my clinic whose three-year-old was suffering with toothache. This child was being breastfed on demand through the night while the mother was also feeding her newborn baby. When I explained that frequent exposure to breast milk could be contributing to the tooth decay the mother decided to gently wean the older child from nighttime feeds whilst moving his daytime feeds to coincide with mealtimes.

**Q7.** *Key recommendations of the new position statement:*

**A.**

- Stop bottle feeding by the age of one
- Only milk or water is placed in a baby's bottle
- Consideration should be given to reducing on-demand and through the night breast-feeding after the age one
- From six months an open-topped or free-flow cup is introduced
- Children should receive their first dental check by the age of one – Dental Check by One (#DCby1)
- Thereafter, the child should be seen once a year or more, depending on the advice of your dentist
- Habits such as dummy use and digit sucking should be withdrawn by 12 months.

**Q8.** *Anything you would like to add?*

**A.** I would like to take the opportunity to stress once again that the wellbeing of parents with young babies is paramount. I wouldn't like our advice to cause stress in any way. It's just out there to enable parents to make the best decisions for their baby and for themselves.

***'I WOULDN'T CALL IT EASY, BUT I WOULD SAY THAT WITH THE RIGHT SUPPORT, WE CAN MAKE SURE PARENTS KNOW WHAT TO DO TO ACT IN THE BEST INTERESTS OF THEIR CHILD'***

1. British Society of Paediatric Dentistry. BSPD statement on infant feeding Jan 2018. Available at: http://bspd.co.uk/Resources/Position-Statements (accessed March 2018).
2. Peres K G, Nascimento G G, Peres M A *et al.* Impact of prolonged breastfeeding on dental caries: a population-based birth cohort study. *Pediatrics* 2017; 140: pii: e20162943. doi: 10.1542/peds.2016-2943.

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# Do you know the difference between *'child protection'* and *'safeguarding'*?

By the Child Protection Company

At the Child Protection Company (www.childprotectioncompany.com), we train dental teams every day to expand their awareness of safeguarding and child protection, starting from the very beginning: What is the definition of each?

Unfortunately, it isn't enough to be able to just quote facts when it comes to your next CQC inspection. The **only** acceptable way you can evidence your safeguarding knowledge is by showing your CQC inspector a verifiable training certificate for every employee in your dental practice. With an expiry date of around two years for safeguarding training in the UK, if you haven't refreshed your safeguarding knowledge in a while, it might be time to start making plans.

If that set your mind whirring with thoughts of all the appointments you'll have to reschedule in order to close the surgery for a training day, we don't blame you. After all, there is already so much pressure on dental teams in the UK to complete CPD each year. Safeguarding training is just one in a long list of required learning. It's the reason our team at the Child Protection Company has developed a variety of training courses to save busy dental teams a lot of time and unnecessary stress. Our courses can be taken entirely online, and they're easily accessible for everyone. So, whether you're working at the reception desk or in the surgery room, you'll find value in our training that you can implement in daily working life. Even better, you can pause and restart our courses to suit your schedule, 24 hours a day, seven days a week.

Our Introduction to Adult/Child Protection online training course is the most popular choice for dental teams. In this course, you're introduced to the most important elements of safeguarding and child protection processes. For dental professionals who require training in line with Level 2 requirements, or for the Designated Safeguarding Professionals in your team, we recommend taking our Further Adult/Child Protection online training course too.

In our online safeguarding courses, we break learning down into modules, defining key words and phrases, introducing you to the main legislation and government guidance, outlining the signs and indicators of abuse, and detailing how best to respond to safeguarding concerns. Along the way, you'll find real-life case studies relevant to the dental environment to really put your learning into context.

For example, consider this scenario:

*Rubi is a 22-year-old female who has been visiting your dental practice with her mum since she was a child. Rubi has a three-year-old daughter, Ella, who usually seems happy and playful, and is always dressed in nice clothes.*

*Rubi moved out of her mum's house with Ella last year to live with her new boyfriend in his flat on the other side of town. Rubi told you that she had a big argument with her mum, who doesn't like her new boyfriend. When you last spoke to Rubi's mum, she said she hadn't seen Rubi or Ella in many weeks and she was worried about them both.*

*At Rubi's last dental appointment, Ella was wearing a cardigan over her dress, which she took off while playing with toys in the waiting room. You noticed there was a large bruise on the top of Ella's arm. Rubi quickly made Ella put the cardigan back on when she saw you looking at the bruise and she told her not to take it off again.*

*At the same appointment, you overheard a phone call Rubi made to her boyfriend. You were unable to hear his exact words, but it sounded like he was shouting and angry. They seemed to be arguing about what time Rubi and Ella would be home. Rubi seemed very upset after the phone call and seemed in a rush to leave the dental practice.*

*Rubi and Ella did not attend their last scheduled appointment and it was Rubi's boyfriend who answered the phone when you called to reschedule. He said that Rubi was too busy to talk, so he booked the appointment for her. You thought he sounded polite and friendly on the phone.*

*Today, Rubi is visiting the practice for her next appointment. It has only been a few months since you last saw them, but you are shocked to see how different Rubi and Ella look. Rubi seems extremely tired. She is not wearing any makeup and has her hair tied back, unwashed. Ella is wearing dirty clothes and also looks very tired. She has a rash on her skin and a large, deep cut above her eyebrow.*

*Rubi asks you how long the appointment will be because her boyfriend is waiting for her outside and he needs to know. You find it strange that she doesn't smile or make conversation with you. Ella sits quietly on Rubi's lap in the waiting room and seems uninterested in playing with the toys. At the end of their appointment, Rubi tells you her boyfriend will be in touch to arrange the next appointment and leaves quickly.*

In our Introduction to Adult/Child Protection online training course, we explore case studies similar to this one and let you choose the appropriate response to the scenario. The course guides you through the case study with information about the types of abuse that might be identifiable and reinforces your knowledge of the procedure for reporting.

In Rubi and Ella's scenario, it would be correct to assume that abuse is occurring behind the scenes and it is probably Rubi's new boyfriend who is the perpetrator. However, could you identify the specific types of abuse that have occurred? Is there evidence here to suggest that Ella is being neglected?

If an incident like this occurs in your dental practice, it is important to remember that it is not your job to decide what exactly is happening in the victim's personal life. Your duty as a dental professional is to identify potential abuse or neglect and to report what you have seen to the designated safeguarding person in your team, or to your line manager. You should **never** take matters into your own hands or try to investigate further, as this could make the situation much worse for those involved. Undoubtedly, the most helpful thing you can do as a dental professional is to prepare yourself with an appropriate level of up-to-date safeguarding training, which will help you to notice potential abuse or neglect, and report your concerns to the correct people.

The Child Protection Company is dedicated to safeguarding and has been training dental teams for over a decade, so we understand better than other training providers what you need to ensure that your learning is relevant and reflective of your environment. The British Dental Association (BDA) recommends our online training courses for dental teams in the UK, and each of our courses is worth three hours of verifiable training under the General Dental Council Lifelong Learning Scheme.

If your safeguarding training certificate is about to expire and you need to arrange training for your dental team, please get in touch with us by calling 01327 552030 or emailing help@childprotectioncompany.com today. A member of our friendly support team will be happy to discuss your options, or you can browse and access training courses online by visiting our website at www.childprotectioncompany.com.

We would like to remind dental teams that you are entitled to a discount on the Child Protection Company's online safeguarding training courses if you are an Essential or Extra member of the BDA. Expert members are also entitled to receive a free Introduction to Adult/Child Protection online course and a free Further Adult/Child Protection online course per each subscription year: http://www.childprotectioncompany.com/CPC/child-protection-training-dentists?L=BDJ318.

**If you suspect a child or adult is in immediate danger, you should always dial 999 in the first instance.**

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***'YOUR DUTY AS A DENTAL PROFESSIONAL IS TO IDENTIFY POTENTIAL ABUSE OR NEGLECT AND TO REPORT WHAT YOU HAVE SEEN TO THE DESIGNATED SAFEGUARDING PERSON'***



# High job satisfaction among orthodontic therapists

**O. Onabolu**,[1] **F. McDonald**[2] and **J. E. Gallagher**[3] present a UK workforce survey.

Background Orthodontic therapy is a new professional group within dentistry, about which little is known. This study aimed to conduct a population survey to examine the profile, working practices, motivation, experiences, career expectations and level of job satisfaction of orthodontic therapists in the UK. Methods Postal questionnaires were sent to all 417 GDC registered orthodontic therapists in the UK. The self-administered GMI questionnaire comprised questions on demography, motivation, job satisfaction and career aspirations. Univariate and multivariate analyses of the data were undertaken including exploratory factor analysis using SPSS statistical software (version 23 for Windows). Results A response of 48% (N = 200) was achieved, the majority of whom were female (95%), working in a mixed NHS/private practice (73.2%), in England (76.8%) and many had wider qualifications in dentistry, notably dental nursing (56.6%). Their mean age was 39 years. The five factors which made up 52% of the variability contained in the initial 23 motivating factors were: 'professional job', 'practical experience', 'knowledge and skills', 'healthcare and people' and 'business'. Reported levels of job satisfaction were high and the majority were routinely providing treatment on prescription. Conclusions Orthodontic therapists, a new professional group within dentistry, report high levels of job satisfaction and there is evidence that this role represents a career development option within dentistry for dental nurses in particular. This national study provides an insight into their working patterns and motivation.

## Background

The first complete orthodontic workforce survey in the UK, in 2003,[1] identified a shortage in the orthodontic workforce as well as a geographic variation in the distribution of providers. This led to an increase in the number of orthodontic specialist training posts, an increase in dentists with a special interest in orthodontics, and the introduction of education and training of a new branch of dental professionals, orthodontic therapists. Orthodontic therapists are one of six groups of dental care professionals registered with the UK General Dental Council (GDC) who carry out certain parts of orthodontic treatment under the prescription of a dentist, normally an orthodontist. Although creation of orthodontic auxiliaries for hospital consultants was proposed in 1968,[2] it was not until November 1999 that the GDC approved a new group of dental care professionals, initially called orthodontic auxiliaries, who are now known as orthodontic therapists. They were to be selected from other registered dental care professionals and their training would be provided exclusively by specialist orthodontists.[2] The first orthodontic therapist course opened in 2007 at Leeds Dental School culminating in successful students gaining a Diploma in Orthodontic Therapy from the Royal College of Surgeons (England) in 2008.[2]

While the GDC and Orthodontic National Group websites suggest eight course locations, there appear to be seven active locations in the UK – Bristol, Leeds, London, Manchester, Preston, Warwick and Edinburgh – which offer an 11 to 12 month course in orthodontic therapy leading to the Diploma in Orthodontic Therapy,[3] from either the Royal College of Surgeons of England or Edinburgh. The only exception is Warwick, which awards an internal diploma. The *Scope of*

*[1]Specialist orthodontist in private practice and former MSc in orthodontics postgraduate student, [2]Professor and Consultant in Orthodontics, King's College London Dental Institute, Guy's Campus; [3]Dean for International Affairs, Newland Pedley Professor of Oral Health Strategy, Honorary Consultant in Dental Public Health, King's College London Dental Institute, Denmark Hill Campus*

*practice* of orthodontic therapists as outlined by the GDC states that an orthodontic therapist must be trained, competent, indemnified and work under the prescription of a dentist.[3] Orthodontic therapists are only allowed to see a patient unsupervised where the dentist writes a clear prescription which cannot be modified by the orthodontic therapist.[4] The prescription should include the type of bracket to be used, any special instructions for placing the brackets, use of auxiliaries as well as the recall interval. Although the GDC *Scope of practice*[3] does not state that the supervising dentist be present at all times, this is recommended by the British Orthodontic Society and Orthodontic National Group guidelines on the supervision of orthodontic therapists and where that is not possible, the supervising dentist should see the patient at least every other visit.[4]

As of December 2015, there were 41,095 registered dentists in the UK, of which about 9% of the listed titles had specialist status, 36% of whom are orthodontists (N = 1,385). Of the dental care professionals, 457 are orthodontic therapists, steadily increasing from 16 in 2008 to 457 by December 2015 and a ratio of one therapist for every three orthodontists.

## Rationale for the study

Demand for orthodontic treatment is rising within the population, albeit the population of young people is not predicted to change markedly over the next few decades.[5] There is a need to assess the current workforce in relation to current and future population needs and the potential for task shifting. The career progression, working practices and job satisfaction of dentists and dental care professionals have received increasing attention in the published literature.[6–11] This increased attention has mainly been due to the recognition of the role of dental care professionals in the dental team as well as a need to understand the influence of changing work patterns on service provision. Despite the increasing literature on dental care professionals in the UK, there is little information on the working practices and career expectations of orthodontic therapists in the UK. Research into their motivation and professional expectations can, therefore, provide vital information to inform education, policy and commissioning decisions.

This present study addresses a gap in the workforce literature. The aim of this study was to examine the profile, working practices, motivation, experiences, career expectations and level of job satisfaction of orthodontic therapists in the UK.

## Method

The study sample comprised all 417 orthodontic therapists registered with the UK General Dental Council at the end of June 2015.

The questionnaire instrument was based on the Gallagher Motivation Instrument (GMI) developed for dental students, which has been used in surveys on the career progression of dental practitioners and dental therapists.[8,12,13] The original questionnaire was constructed using qualitative data from focus groups of final year dental students at King's College London Dental Institute and vocational dental practitioners recruited nationally during the 2004/05 cycle and drawing on published literature.[14] Questions regarding job satisfaction

**Table 1 Characteristics of orthodontic therapist respondents**

| Characteristics | Groups | N* | %* |
|---|---|---|---|
| **Sex** | Female | 187 | 94.4% |
| | Male | 6 | 3.0% |
| **Age-group** | <39 years | 96 | 48.5% |
| | >39 years | 96 | 48.5% |
| **Ethnicity** | White | 180 | 90.0% |
| | Asian | 5 | 2.5% |
| | Any other ethnic group | 4 | 2.0% |
| | Mixed | 2 | 1.0% |
| **Hours worked** | Full time | 129 | 65.2% |
| | Part time | 62 | 31.3% |
| | Other | 4 | 2.0% |
| | >30 hours | 142 | 71.7% |
| | <30 hours | 53 | 26.8% |
| **Current work location** | England | 152 | 76.8% |
| | Scotland | 21 | 10.6% |
| | Wales | 10 | 5.1% |
| | Northern Ireland | 7 | 3.5% |
| | Other | 4 | 2.0% |
| **Region of England** | North | 55 | 27.8% |
| | South | 36 | 18.2% |
| | Midlands and East | 35 | 17.7% |
| | London | 33 | 16.7% |
| **System of work** | Mixed (NHS & Private) | 145 | 73.2% |
| | NHS | 43 | 21.7% |
| | Private | 7 | 3.5% |
| **Setting of work** | Specialist practice | 141 | 71.2% |
| | Hospital | 30 | 15.2% |
| | General practice | 5 | 2.5% |
| | Salaried primary dental care services | 4 | 2.0% |
| **Patients seen** | Mixed (NHS & Private) | 127 | 64.1% |
| | NHS | 61 | 30.8% |
| | Private | 7 | 3.5% |
| **Work only as orthodontic therapist** | Yes | 162 | 81.8% |
| | No | 31 | 15.7% |

*Some values all combined do not add up to 100% due to missing data

were adapted from previous surveys on dental therapists and dental hygienists,[10,11] and the demographic section was adapted from that used for dental therapy. Questions relating to the scope of practice were developed based on the 2013 guidelines.[3] Adaptations were tested for face validity with orthodontic experts. The questionnaire was pilot tested on a small sample of student orthodontic therapists to check length, clarity and relevance of questions.

The questionnaire had both open and close ended questions and included the following sections:

1. Motivation including their vision of their professional career and major influences affecting their choice of a professional career in dentistry
2. Current working practice
3. Job satisfaction
4. Career aspirations including how they would want their careers to progress
5. Demographics.

All responses from the questionnaire were completely confidential and non-attributable to the participants. Ethical approval for the study was obtained from the King's College London (KCL) Research Ethics Subcommittee for Biomedical & Health Sciences, Dentistry, Medicine and Natural & Mathematical Sciences (LRU–15/16–1607).

Dillman's total design survey method was employed to carry out the questionnaire survey to maximise the response.[15] The questionnaire, introductory letter and prepaid return envelopes were posted out to all 417 orthodontic therapists in December 2015. Follow-up reminder letters were sent to non-responders one week later using second class mailing with replacement questionnaires and prepaid return envelopes sent at three and seven weeks after the initial mailing.

## Statistical analysis

Statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 23.0 for Windows. Descriptive analyses were carried out to summarise the sample characteristics and baseline information. Differences between groups were examined using the Chi-squared test for linear trends across the rated questions.

Exploratory factor analysis was conducted to determine the principal latent determinants of the choice of a professional career in dentistry. This was undertaken using maximum likelihood and varimax rotation. An initial analysis was conducted to obtain Eigen values for each influencing data. Aggregate scores were derived from each principal determinant in order to rank their impact. A goodness-of-fit was applied to each correlated factor. Linear regression models were used to assess factors influencing choice of a professional career in dentistry in terms of age.

## Results

### *Characteristics of the respondents*

Replies were received from 200 of the 417 registered orthodontic therapists giving a response rate of 48%. Two of the respondents did not answer the majority of the questions and were excluded from the sample giving a final sample of 198. The age of respondents ranged from 24 to 64 years with a mean of 39 (SD = 8.6) and mode of 37 years. A small proportion was aged over 50 years (14%, N = 27). The majority were female (94.4%, N = 187) and white (90%; N = 180), with the remainder from a mix of ethnic groups. There were six respondents of the eight male GDC registered orthodontic therapists, representing 75% of all male orthodontic therapists in the UK.

Overall, 81.3% of the respondents were born in the UK, with the remainder from the rest of Europe (7.6%) and the rest of the world (6.6%). Year of qualification ranged from 2008 to 2015, with 2009 being the modal year. Of the 195 respondents who answered the question on qualifications held, the majority (96.5%) reported holding a Diploma in Orthodontic Therapy. Four respondents did not indicate they had a Diploma in Orthodontic Therapy. Additional qualifications gained by some of the respondents included a Diploma in Dental Nursing (56.6%), Diploma in Dental Hygiene or Therapy (7.6%), Certificate in Dental Radiography (15.7%), Certificate in Orthodontic Nursing (11.1%) and Certificate in Dental Health Education (2%). One respondent held an HND in Advanced Orthodontic Dental Technology and, another, a Bachelor of Dental Surgery degree obtained overseas.

### *Current working practices*

A total of 189 (95.5%) respondents were currently working as orthodontic therapists with the remainder on career breaks, including maternity leave.

The distribution of all the respondents was categorised based on the location of their primary place of work. Just over three-quarters (76.8%) currently work in England as orthodontic therapists, 10.6% in Scotland, with a minority in Wales (5.1%) and Northern Ireland (3.5%). There were five respondents who worked in both England and Wales while another two worked in both England and Scotland, and just one worked on the Isle of Man. Within England, more respondents reported working in the North (27.8%) compared with London (16.7%), Midlands and East (17.7%) or South (18.2%) region.

The majority of orthodontic therapists (73.2%) reported working in a mixed NHS/private practice, while 21.7% worked only in the NHS and 3.5% in private practice. Almost three-quarters (71.2%) worked in specialist practices. The remainder worked in hospital (15.2%), general practice (2.5%) and salaried primary dental care (2%). A small proportion worked in both salaried primary dental care and general dental practice (4.5%).

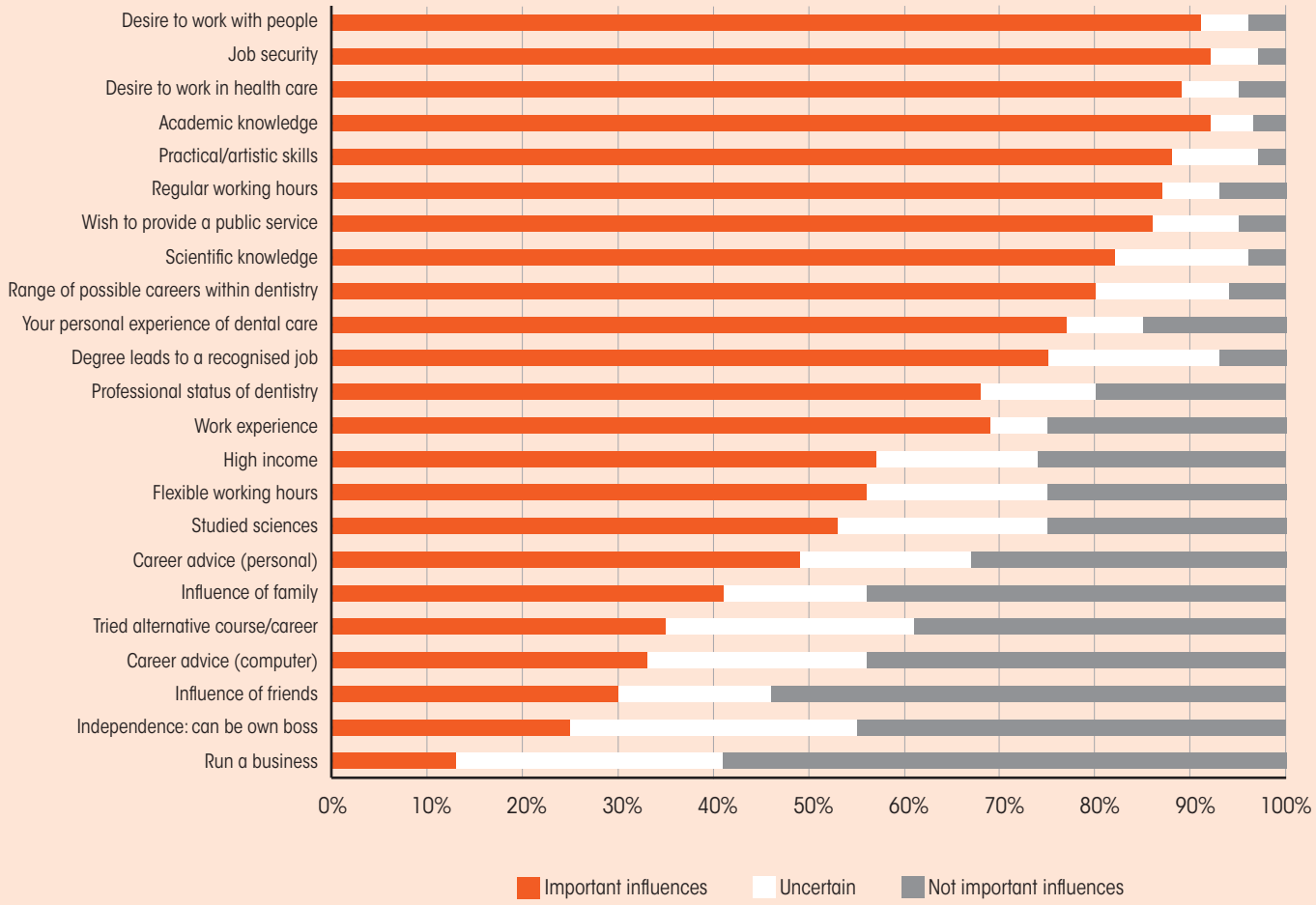
Almost two-thirds (64.1%) reported treating both NHS and private patients while the remainder treated only NHS (30.8%) and private patients (3.5%).

On average, respondents reported working 32 hours per week (mode = 37.5 hours; range = 4–45 hours). Part-time work was defined as working less than 30 hours per week with the majority (65.2%) working full-time, with the remainder working part-time (31.3%) or flexibly (2%) over a bi-monthly or monthly period. Most of the respondents worked only as orthodontic therapists (81.8%), with almost one in five holding other roles: as dental hygienists (N = 6), dental therapists (N = 2), dental nurses (N = 6), practice managers (N = 6), tutors (N = 7), a dental technician (N = 1) and both a dental hygienist and a dental therapist/tutor (N = 3).

Based on the type of establishment, 69.8% (N = 30) of the respondents who undertake only NHS treatment worked in hospital; they were mainly female, working full time and in

***'A NUMBER OF PROCEDURES WITHIN THE SCOPE OF PRACTICE, AND OBTAINABLE BY ADDITIONAL QUALIFICATION, WERE NOT ROUTINELY PERFORMED…'***

**Fig. 1 Factors influencing the choice of professional career in dentistry by orthodontic therapists**




England. This was similar to the distribution of responders working in mixed NHS/private practice. All the respondents who work in private practice were female, worked full time and were in England (Table 1).

## *Responses on selection of a professional career in dentistry*

A 'desire to work with people' (88.4%), 'job security' (88.4%), 'a desire to work in healthcare (87.4%), 'academic knowledge' (87.4%) and 'scientific knowledge' (87.4%) were the top motivating factors in choice of a professional career in dentistry.

Participants were invited to select a single major influence on their decision to choose a professional career in dentistry. The single major influence was reported as 'your personal experience of dental care' (15.6%) followed by 'desire to work in health care' (15%) and 'desire to work with people' (12.2%) (Fig. 1).

## *Factor analysis*

The maximum likelihood factor analysis using varimax rotation resulted in five factors with Eigen values above 0.97 and in combination explained 52% of the total variability contained in the 23 item questions relating to the professional choice of a career in dentistry as follows: first, 'professional job factor' (20.5%); second, 'practical experience factor' (15%); third, 'knowledge and skills' (7.2%); fourth, 'healthcare and people factor' (4.9%); fifth, and finally, 'business' (4.2%) (Table 2).

Table 3 shows multiple linear regression models for these five factors in terms of age of the respondents. Job security, regular working hours and high income were considered the main influential determinants for the professional job and influence factor and the dominant motivating influence. The model was adjusted for age and although no statistical association was found, 'professional job' factor ($P = 0.06$) and 'business' factor ($P = 0.08$) were approaching significance as influential factors in career choice.

## *Clinical procedures carried out by orthodontic therapists*

Orthodontic therapists' roles in relation to clinical procedures were explored with respondents identifying the level of supervision received for the different procedures they carry out. The majority of clinical procedures are carried out under a written prescription of a dentist, but unsupervised. Common orthodontic procedures such as 'fit orthodontic separators' (75.8%), 'place orthodontic brackets' (72.7%), 'fit orthodontic bands' (70.7%), 'take impressions' (70.2%) and 'removal of fixed appliances' (68.2%), were the main procedures carried out unsupervised, but with a written prescription. 'Carrying out emergency procedures' (59.6%), 'oral hygiene instructions and diet advice' (43.9%) and reporting that they 'keep full and accurate patient records' (33.8%) were all procedures carried out unsupervised with no written prescription. A small percentage (1.5%) reported fitting bonded retainers and adjusting arch wires unsupervised and with no written prescription. A number of procedures within the scope of practice, and obtainable by additional qualification, were not routinely performed: only a small number of respondents reported that they routinely applied fluoride varnish (11.6%), poured and trimmed study models (16.2%), removed sutures (16.2%) and fitted face bows and headgear (20.7%) (Table 4).

**Table 2 Factor analysis: influences on professional career in dentistry reported by orthodontic therapists**

| | Factors: | | | | |
|---|---|---|---|---|---|
| | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 |
| | Professional job | Practical experience | Knowledge and skills | Healthcare and people (4.9%) | Business |
| Career advice (computer) | | 0.850 | | | |
| Career advice (personal) | | 0.820 | | | |
| Work experience | | 0.604 | | | |
| Personal experience of dental care | | 0.438 | | | |
| Studied sciences | | 0.424 | | | |
| Tried alternative career course | | 0.335 | | | |
| Job security | 0.623 | | | | |
| Regular working hours | 0.616 | | | | |
| High income | 0.606 | | | | |
| Professional status of dentistry | 0.517 | | | | |
| Flexible working hours | 0.486 | | | | |
| Influence of family | 0.467 | | | | |
| Influence of friends | 0.409 | | | | |
| Range of possible careers within dentistry | 0.385 | | | | |
| Academic knowledge | | | 0.972 | | |
| Scientific knowledge | | | 0.712 | | |
| Practical/artistic skills | | | 0.560 | | |
| Degree leads to a recognised job | | | 0.311 | | |
| Desire to work in health care | | | | 0.860 | |
| Wish to provide a public service | | | | 0.707 | |
| Desire to work with people | | | | 0.650 | |
| Run a business | | | | | 0.806 |
| Independence: can be own boss | | | | | 0.804 |

### *Job satisfaction*

The level of job satisfaction with work was assessed using a 7-point Likert scale from 'extremely dissatisfied' (score – 1) to 'extremely satisfied' (score – 7) covering questions exploring their working conditions, remuneration and hours of work. The overall level of job satisfaction was high from the respondents with 71.2% rating their job satisfaction as very satisfied or extremely satisfied. The top five satisfying influences were 'your colleagues and fellow workers', 'amount of variety in job', 'physical working conditions', 'hours of work' and 'opportunity to use your abilities'. The main dissatisfying influences were their remuneration and not being given recognition for good work. The majority of orthodontic therapists (74.3%) indicated being supported to keep-up-to-date with developments in the field. There was no difference in job satisfaction between males and females or between older and younger respondents (Fig. 2).

### *Career aspirations*

Opportunities for training and continued professional development (85.8%), availability of a job (84.8%) and proximity to family (80.5%) were top influencing factors that might influence the decision on where respondents might want to work. These factors were significantly important for both males and females and there was no difference in their response rates. Proximity to training school, rural area, urban area and affluent area with opportunity to undertake private care were not important influencing factors (Fig. 3).

Financial stability (80.8%), work/life balance, (71.7%), gaining professional experience (70.2%) and working toward achieving career goals (61.1%) were the most influential factors when making decisions about their professional career.

## Discussion

This study shows that the orthodontic therapists responding to this survey have a high degree of job satisfaction and that the majority deliver much of their scope of practice, with one in five combining this with another role in dentistry. They report being motivated to pursue a career

**Table 3 Linear regression models for the five principal factors that motivate orthodontic therapists to pursue a professional career in dentistry**

**Factor 1: Professional job factor**

**Coefficients[a]**

| | | Unstandardised coefficients | | Standardised coefficients | | | 95.0% Confidence interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Upper bound |
| 1 | (Constant) | -0.606 | | | | 0.056 | -1.229 | 0.016 |
| | Age | 0.015 | | 0.155 | | 0.056 | 0.000 | 0.031 |

[a] Dependent variable: professional job

**Factor 2: Practical experience factor**

**Coefficients[a]**

| | | Unstandardised coefficients | | Standardised coefficients | | | 95.0% Confidence interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Upper bound |
| 1 | (Constant) | -0.051 | | | | 0.885 | -0.743 | 0.641 |
| | Age | 0.001 | | 0.014 | | 0.865 | -0.016 | 0.019 |

[a] Dependent variable: practical experience

**Factor 3: Knowledge and skills factor**

**Coefficients[a]**

| | | Unstandardised coefficients | | Standardised coefficients | | | 95.0% Confidence interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Upper bound |
| 1 | (Constant) | 0.120 | | | | 0.743 | -0.601 | 0.840 |
| | Age | -0.004 | | -0.034 | | 0.676 | -0.022 | 0.014 |

[a] Dependent variable: knowledge and skills

**Factor 4: Healthcare and people factor**

**Coefficients[a]**

| | | Unstandardised coefficients | | Standardised coefficients | | | 95.0% Confidence interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Upper bound |
| 1 | (Constant) | 0.446 | | | | 0.187 | -0.219 | 1.111 |
| | Age | -0.012 | | -0.112 | | 0.167 | -0.028 | 0.005 |

[a] Dependent variable: healthcare and people

**Factor 4: Business factor**

**Coefficients[a]**

| | | Unstandardised coefficients | | Standardised coefficients | | | 95.0% Confidence interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Upper bound |
| 1 | (Constant) | -0.582 | | | | 0.085 | -1.246 | 0.081 |
| | Age | 0.015 | | 0.145 | | 0.075 | -0.002 | 0.032 |

[a] Dependent variable: business

**Table 4 Clinical duties performed by orthodontic therapists**

| Procedure | Unsupervised (with written prescription) | | Under supervision | | Unsupervised (no written prescription)* | | Procedure not undertaken | |
|---|---|---|---|---|---|---|---|---|
| | No | % | No | % | No | % | No | % |
| Fit orthodontic separators | 150 | 75.8% | 12 | 6.1% | 1 | 0.5% | 10 | 5.1% |
| Place orthodontic brackets | 144 | 72.7% | 16 | 8.1% | 1 | 0.5% | 1 | 0.5% |
| Fit orthodontic bands | 140 | 70.7% | 21 | 10.6% | 0% | | 13 | 6.6% |
| Taking impressions | 139 | 70.2% | 5 | 2.5% | 15 | 7.6% | 0% | |
| Remove fixed appliance and orthodontic | 135 | 68.2% | 28 | 14.1% | 2 | 1% | 1 | 0.5% |
| Insert removable appliances | 128 | 64.6% | 26 | 13.1% | 5 | 2.5% | 3 | 1.5% |
| Fit bonded retainers | 127 | 64.1% | 19 | 9.6% | 3 | 1.5% | 19 | 9.6% |
| Insert, adjust and remove archwires | 123 | 62.1% | 25 | 12.6% | 3 | 1.5% | 2 | 1% |
| Select and place orthodontic auxiliaries | 120 | 60.6% | 20 | 10.1% | 13 | 6.6% | 0% | |
| Taking clinical photographs | 113 | 57.1% | 7 | 3.5% | 28 | 14.1% | 20 | 10.1% |
| Taking intra and/or extra oral radiographs | 108 | 54.5% | 11 | 5.6% | 4 | 2% | 56 | 28.3% |
| Keep full and accurate patient records | 67 | 33.8% | 15 | 7.6% | 66 | 33.3% | 2 | 1% |
| Oral hygiene instructions and diet | 54 | 27.3% | 7 | 3.5% | 87 | 43.9% | 1 | 0.5% |
| Carry out emergency procedures | 31 | 15.7% | 14 | 7.1% | 118 | 59.6% | 2 | 1% |
| Take occlusal records including orthognathic | 23 | 11.6% | 25 | 12.6% | 1 | 0.5% | 136 | 68.7% |
| Suture removal | 18 | 9.1% | 11 | 5.6% | 3 | 1.5% | 153 | 77.3% |
| Fit facebows and headgear | 17 | 8.6% | 23 | 11.6% | 1 | 0.5% | 149 | 75.3% |
| Apply fluoride varnish | 17 | 8.6% | 4 | 2% | 2 | 1% | 166 | 83.8% |
| Carry out IOTN screening | 15 | 7.6% | 34 | 17.2% | 7 | 3.5% | 130 | 65.7% |
| Pour and trim study models | 12 | 6.1% | 4 | 2% | 16 | 8.1% | 191 | 79.8% |

*Procedures currently not legal for orthodontic therapists to perform without a written prescription. Some values all combined do not add up to 100% due to missing data

in dentistry by similar influences to dental and dental hygiene-therapy students, with the majority working full time and as orthodontic therapists, although a small minority combine this with other roles in dentistry. The main limitation of this study is the relatively low response rate, which may affect the generalisability of the results and, as such, the findings should be interpreted with care. Further research, particularly qualitative research, would be helpful to explore professional roles and career development in depth.

## *Motivation*

This study has highlighted the underlying factors that motivate orthodontic therapists to pursue a career in dentistry. A similar range of items appears to influence the motivation to pursue a professional career in dentistry with orthodontic therapists as with dental students and dental nurses.[8,16]

The single major motivational influence of 'your personal experience of dental care' reported by orthodontic therapists should be interpreted with care. Respondents may have been referring to their experience working within the dental environment as dental care practitioners, as opposed to their experience undergoing dental treatment. All the respondents were registered dental care professionals who had worked in the dental environment for a number of years before becoming orthodontic therapists. This section on motivation was the same as that from the GMI which was developed for final year dental students,[8] who would more likely indicate their personal experience of having dental treatment as a motivating factor to study dentistry as they would have had little personal experience in dentistry before starting their course.

Professional job and influence factors such as job security, regular working hours and high income reported here are similar to influences reported by the study on final year dental students in the UK,[8] and around the world.[17,18] The high response for a desire to work in healthcare, with people and a wish to provide a public service are all healthcare and people factors, which appear to suggest an altruistic element by the respondents. This is similar to what has been reported in relation to dental students in the UK and Malaysia.[8,18]

## *Clinical duties*

The majority of the respondents responded that they perform most of their clinical duties either under direct supervision of a dentist or unsupervised with a written prescription. This is in line with good clinical practice. As expected, most of the clinical procedures reported to be carried out routinely by the respondents are the common orthodontic procedures of placing and removal of fixed appliances, adjusting orthodontic appliances, impression taking and placement of separators. A minority indicated that they carry out certain procedures unsupervised and with no written prescription. It can be argued that carrying out emergency procedures without supervision and under no written prescription falls under the remit of their scope of practice to make an

**Fig. 2 Levels of job satisfaction as reported by respondents**

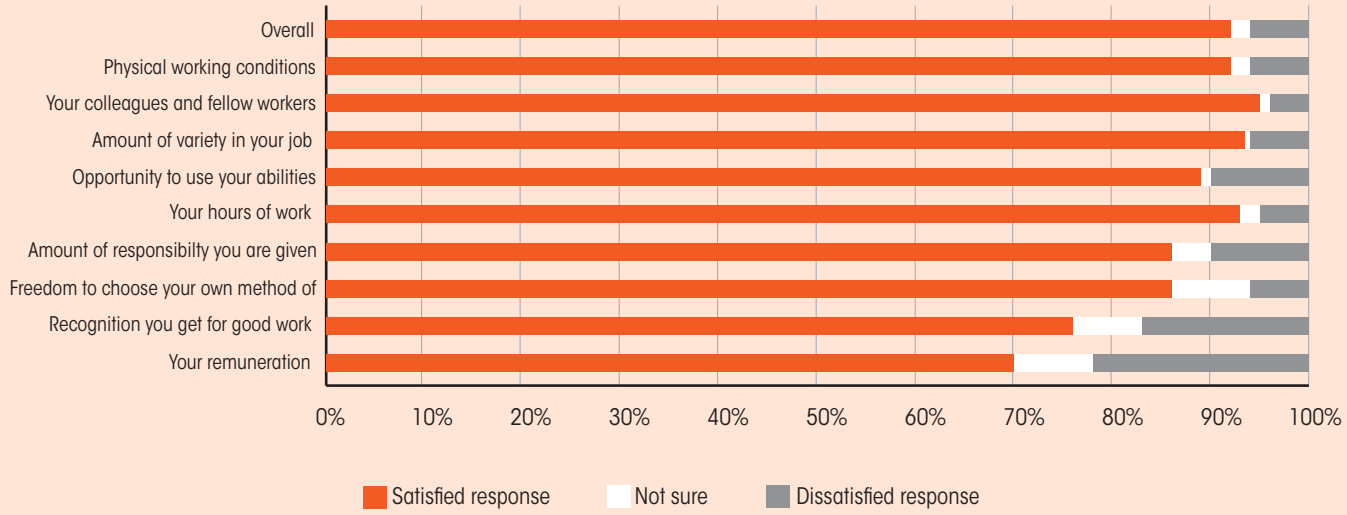
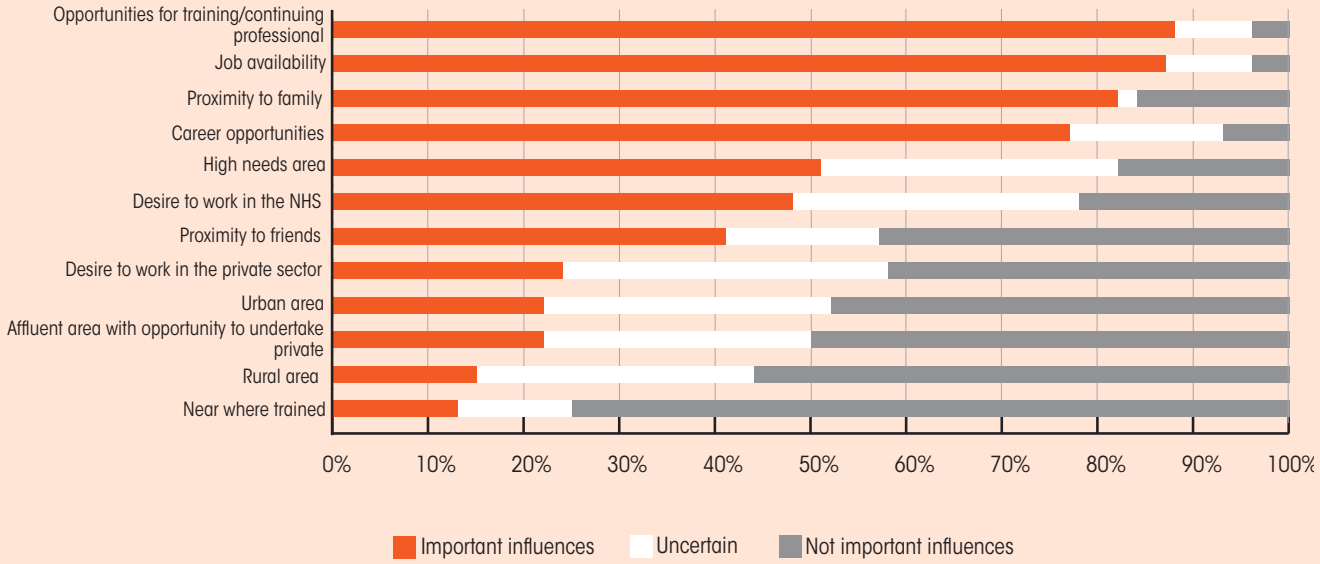



**Fig. 3 Perceived influences on decision on where responders work**




appliance safe in the absence of a dentist. For other procedures outside emergency procedures, it could not be determined if those respondents misinterpreted how to respond to the question or if they do carry out clinical procedures unsupervised with no written prescription. The questionnaire was anonymous so it was not possible to follow up on these respondents to explore this further. This finding of working outside the scope of practice is, however, similar to that reported in dental therapists.[11] Only a small proportion of the respondents indicated that they apply fluoride varnish (11.6%, N = 23) and although it requires an additional qualification, it may be a skill worth acquiring as many of their patients are young people who may be at an increased risk of caries and may benefit from this preventive measure if they are not attending their general dental team on a regular basis. This is an area worth further exploration, particularly given the importance of evidence-based prevention.[19]

In the four respondents who did not indicate possessing a Diploma in Orthodontic Therapy, this is most likely an omission on the part of the respondents, as they would need one to practise in the UK.

### *Job satisfaction*

The level of job satisfaction expressed by the respondents is high. Studies in the UK and abroad suggest that a large proportion of dental professionals are satisfied with their career. The high level of satisfaction seen here is higher than that reported in dental therapists and hygienists in the UK with reported values of 58% and 52% respectively.[10,11,19] These groups are comparable to this sample population as they are all dental care professionals with a high proportion of females as demonstrated by our data. However, dental practitioners expressed

lower levels of job satisfaction than dental health practitioners, particularly the female dentists.[20,21]

A small proportion of the respondents indicated a low level of satisfaction with their remuneration. This is slightly surprising as most of the respondents work in specialist practices on the high street and it would be expected that the remuneration in specialist practices would be higher than that in hospitals. It would be interesting to see if there was any difference in geographic location of the respondents who indicated a lower satisfaction for their remuneration. This may have implications on the geographic distribution of orthodontic therapists as well as having implications for workforce planning.

### *Career aspirations*

Orthodontic therapy appears to represent an important area of career progression among dental nurses, with a large proportion of the respondents indicating that they hold a diploma in dental nursing. Dental nurses are a vital member of the dental team and comprise 51% (N = 54,209) of the registrants on the dental register.[22] In a study on trainee dental nurses in the UK, many of the trainees expressed a strong interest in professional development within dentistry including a desire to become dental hygienists or therapists in the future.[15] With the establishment of orthodontic therapy in the UK, there is another career progression pathway for this important group of dental care professionals. Given the large proportion of respondents that indicated an interest in pursuing further professional training, regular continuing education and training may serve as an incentive to keep job satisfaction high. This professional development within UK dentistry, which should be explored in future research into its contribution to oral healthcare as well as professional careers, may provide a model for other countries to follow.

## Conclusion

This study contributes to the literature on the orthodontic workforce as it is the first of its kind to be conducted on orthodontic therapists in the UK. It provides insight into the demographics, motivation, working practices, job satisfaction and career aspirations of orthodontic therapists. Despite the limitations of the study, this is important analysis of an emerging workforce and to the authors' knowledge, other countries have limited training for orthodontic therapists when compared to the numbers of specialists. Many countries informally use dental care professionals to carry out some orthodontic tasks. The results of this survey may have implications for the development of career progression pathways for orthodontic therapists and other dental care professionals, and inform orthodontic workforce planning processes.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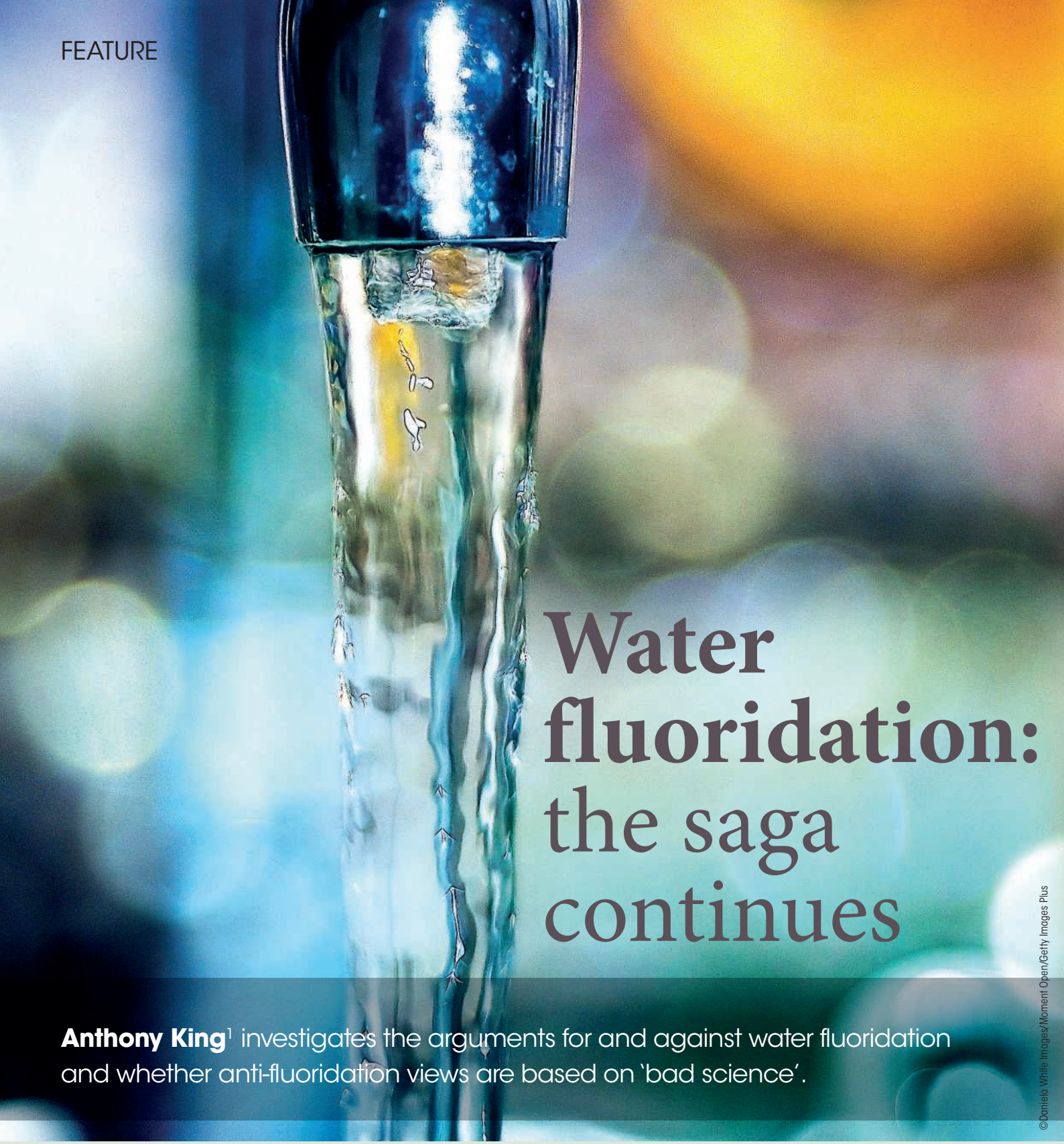

# Water fluoridation: the saga continues

**Anthony King**[1] investigates the arguments for and against water fluoridation and whether anti-fluoridation views are based on 'bad science'.



## Why is water fluoridated?

Water fluoridation is a cost-effective way of reducing dental caries rates. The fluoride binds to enamel and makes it more resistant to acid attack from bacteria. The World Health Organisation supports water fluoridation and estimates 370 million people worldwide benefit from fluoridated water. Fluoridating public water is supported by the American Dental Association, the American Medical Association, and the British Dental Association.

## What are the harms that fluoride is supposed to cause?

In 1976, a study linked fluoride intake to cancer; it has since been discredited. A 2012 Harvard study reported a link between high fluoride levels found in naturally occurring water in China and lower IQs;[1] many saw it as too much of a stretch to link it directly to public water supplies, since the concentration of fluoride was much higher. Deans of public health, dentistry and medicine responded in support of fluoridation.[2] A 2016 Mexican study reported an association between maternal urinary fluoride levels and child cognitive development.[3] The authors cautioned that further research was needed. Campaigners for fluoridation are adamant that it is safe: 'Do residents of fluoridated Birmingham and Newcastle have lower IQs than residents of Manchester or Liverpool? Of course not, but they do have better dental health,' said Michael Foley, at Brisbane

[1]*Freelance journalist, Dublin*

Dental Hospital, Queensland. The American Cancer Society offers advice to those who are concerned their families may be exposed to excessive fluoride.[4]

## Is there any evidence that fluoridation causes harm?

There are studies looking into effects of fluoridation, but most medical, scientific and public health bodies view the intervention as safe. In Australia, Queensland allows communities to opt out of water fluoridation and there are no reported health discrepancies between opt-out communities and the rest of Australia. A 2015 study in New Zealand found no difference in IQs between those exposed to fluoride in water and those not.[5] Nonetheless, there continues to be bona fide research looking at potential consequences of adding fluoride and fluoride intake levels. Evidence for harm is not there.

## Are anti-fluoridation views disguised pseudoscience?

The most passionate anti-fluoridation campaigners cite experts from decades ago, claim fluoride is rat poison, or quote animal studies with extreme exposures to fluoride. It is well recognised that *high* doses of fluoride – in natural water sources or foodstuffs – is bad for you. The Fluoride Action Network (http://fluoridealert.org) is a leader of anti-fluoridation campaigns and has promoted a 2017 position paper linking fluoride to Alzheimer's disease, cancer, diabetes, heart disease, infertility, and many other adverse health outcomes.[6] Linking a public health measure to fatal and debilitating conditions requires solid scientific evidence; this is not there. 'Most of the listed references [in the position paper] are replicated or links to other position papers,' says Dr Poul Erik Petersen, WHO senior consultant of the Oral Health Programme, 'and the document avoids carefully making reference to the advanced population studies on the dental caries preventive effect published in recognised peer-reviewed scientific journals.'

## Opt-out communities and ethical objections to fluoridation

Many communities have opted out of fluoridation and proponents say the dental health of these populations is suffering as a consequence. There are valid ethical objects to compulsory treatment of citizens, however. Dr Philippe Grandjean, environmental scientist at Harvard (and author of the aforementioned 2012 study[1]), says he prefers topical treatment over systemic, unless we can be certain that fluoride has no toxic effects. 'We also need to determine whether fluoridation is at all needed nowadays.' This is a valid question.

## Is anti-fluoridation bad science?

Undoubtedly purposeful exaggeration has been used to frighten the public about water fluoridation. Anti-fluoridation campaigners have often misrepresented the evidence. This is bad science. Policy makers must follow current advice of public health experts: that fluoridation is safe and effective. 'Community water fluoridation is safe and cost-effective and should be introduced and maintained wherever socially acceptable and feasible,' says Dr Petersen. It is not bad science to investigate concerns about fluoride effects, to argue the ethics of compulsory fluoridation or to investigate viable alternatives.

***'LINKING A PUBLIC HEALTH MEASURE TO FATAL AND DEBILITATING CONDITIONS REQUIRES SOLID SCIENTIFIC EVIDENCE; THIS IS NOT THERE.'***


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# Scope of practice: orthodontic therapists

An up-to-date focus on the scope of practice of one group of dental care professionals (DCPs), as described by the General Dental Council (GDC).

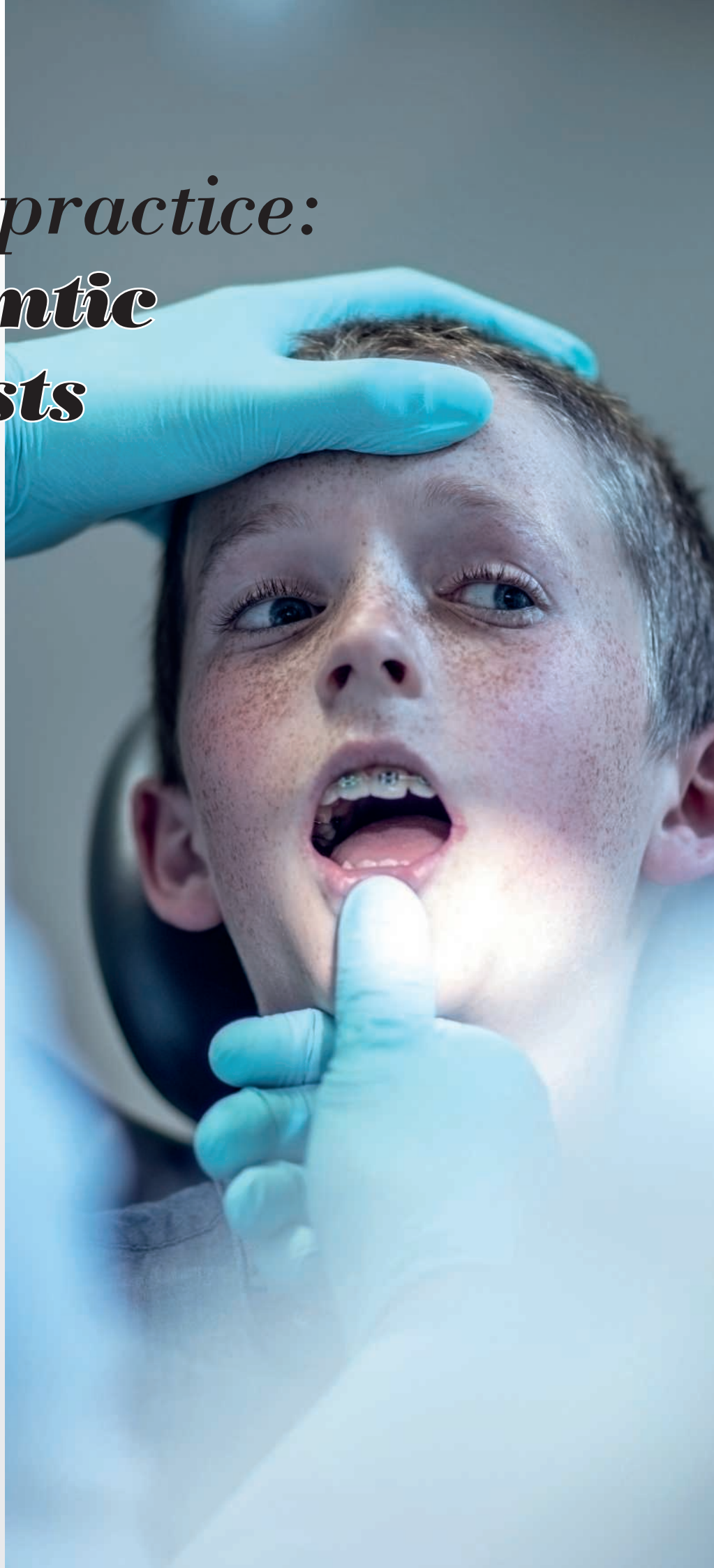
'Scope of practice' means what you are trained and competent to do. It describes the areas in which you have the knowledge, skills and experience to practise safely and effectively in the best interests of patients. The GDC's full document on the scope of practice of all dental registrants, published in 2013 and updated in 2017, can be found at https://www.gdc-uk.org/professionals/registers/reg-types.

## Orthodontic therapists

Orthodontic therapists are registered dental professionals who carry out certain parts of orthodontic treatment under prescription from a dentist. For statistics, see Figs 1-2 and Table 1.

As an orthodontic therapist, you can undertake the following if you are trained, competent and indemnified:

- Clean and prepare tooth surfaces ready for orthodontic treatment
- Identify, select, use and maintain appropriate instruments
- Insert passive removable orthodontic appliances
- Insert removable appliances activated or adjusted by a dentist
- Remove fixed appliances, orthodontic adhesives and cement
- Identify, select, prepare and place auxiliaries
- Take impressions
- Pour, cast and trim study models



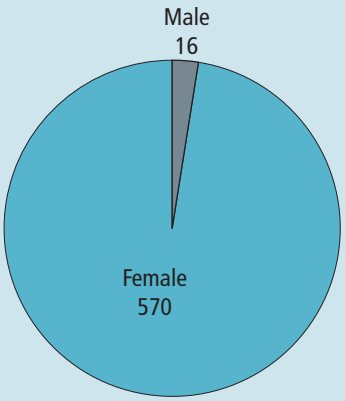



Fig. 1 Orthodontic therapists on the GDC register (March 2018)

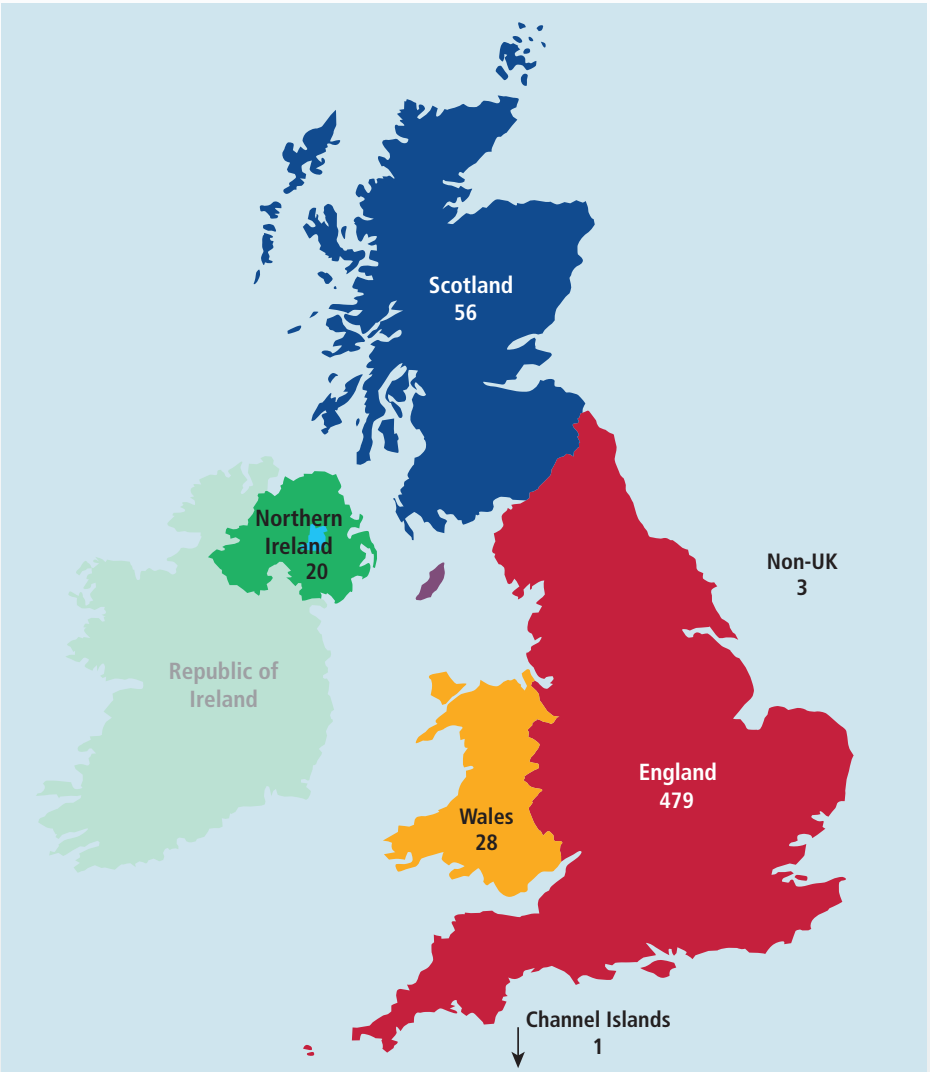



Fig. 2 Orthodontic therapists by UK region (March 2018)

- Make a patient's orthodontic appliance safe in the absence of a dentist
- Fit orthodontic headgear
- Fit orthodontic facebows which have been adjusted by a dentist
- Take occlusal records including orthognathic facebow readings
- Take intra and extra-oral photographs
- Place brackets and bands
- Prepare, insert, adjust and remove archwires previously prescribed or, where necessary, activated by a dentist
- Give advice on appliance care and oral health instruction
- Fit tooth separators
- Fit bonded retainers
- Carry out index of orthodontic treatment need (iotn) screening either under the direction of a dentist or direct to patients

***'ORTHODONTIC THERAPISTS ARE REGISTERED DENTAL PROFESSIONALS WHO CARRY OUT CERTAIN PARTS OF ORTHODONTIC TREATMENT UNDER PRESCRIPTION FROM A DENTIST.'***

- Make appropriate referrals to other healthcare professionals
- Keep full, accurate and contemporaneous patient records
- Give appropriate patient advice.

Additional skills which orthodontic therapists could develop include:

- Applying fluoride varnish to the prescription of a dentist
- Repairing the acrylic component part of orthodontic appliances
- Measuring and recording plaque indices
- Removing sutures after the wound has been checked by a dentist.

Orthodontic therapists do not:

- Modify prescribed archwires
- Give local analgesia
- Remove sub-gingival deposits
- Re-cement crowns
- Place temporary dressings
- Diagnose disease
- Treatment plan.

**Table 1 Dental care professionals with more than one title (March 2018)**

| | Orthodontic therapist |
|---|---|
| Clinical dental technician | 0 |
| Dental hygienist | 27 |
| Dental nurse | 558 |
| Dental technician | 7 |
| Dental therapist | 15 |

These tasks are reserved for dental hygienists, dental therapists or dentists.

Orthodontic therapists do not carry out laboratory work other than that listed above as that is reserved to dental technicians and clinical dental technicians (CDTs).

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# Navigating the **waterline regulations**

**Simon Davies**[1] explores the main regulations governing dental waterline management in England.

Dental waterline management is an issue that we overlook at our peril. Yes, some microorganisms that live in water are harmless, but also lurking in there may be the likes of *Legionella* bacteria, alongside Pseudomonads and *Mycobacterium* species.

To bring these bacteria sharply into focus, *Legionella* species is a major contributor to Legionnaire's disease, *Pseudomonas aeruginosa* can cause pneumonia in immunocompromised patients, while *Mycobacterium* species can result in pulmonary disease and opportunistic wound infections.[1]

## Legal compliance

In England, the Care Quality Commission (CQC) inspects whether standards are being met in dental practices. Specifically, Regulation 15 relates to the safety of equipment such as dental unit waterlines. It is in line with this Regulation that CQC inspectors will rate the practice's success (or failure) in eliminating potentially harmful biofilms in water lines.

There is a host of legislation and guidance that may be relevant when it comes to meeting the CQC's requirements, which can be found in full on the CQC's website. However, for our purpose here, the most pertinent are:

- HTM 01-05: Decontamination in primary care dental practices[2]
- HTM 04-01: Safe water in healthcare premises[3]
- Approved Code of Practice and Guidance L8 (ALCOP L8).[4]

HTM 01-05 states: 'Registered Managers of dental practices have an overriding general duty of care under the Health and Safety at Work Act 1974'. An important aspect of this duty of care is ensuring that the water coming into the practice, how it is stored and then how it is delivered all comply with the best practice guidance provided in HTM 04-01 and ALCOP L8.[2]

HTM 01-05 itself offers an overview of dental unit waterline (DUWL) regulation, covering issues including – but not limited to – microbiological monitoring, disinfection processes, *Legionella* risk assessment and what to do in the case of an unexpected DUWL shut-down.[2]

[1] *Managing Director, CleanCert, a company specialising in innovative dental infection control and water purification products. CleanCert+ can help you to exceed best practice levels in waterline disinfection. For details on how this independently tested product can achieve a total viable count dip of* 0 cfu/ml in your practice, *visit cleancert.co.uk, email sales@cleancert.co.uk or call 08443 511115.*

Moving on to HTM 04-01, its purpose is to offer guidance on controlling *Legionella:* 'Provided water is supplied from the public mains and its quality is preserved by correct design, installation and maintenance, it can be regarded as microbiologically acceptable for use. It is exceptional, however, for a water supply, either public or private, that is wholly "potable" to be entirely free from aquatic organisms, and consequently it is important that appropriate measures are taken to guard against conditions that may encourage microbial multiplication.'[3]

Taking 'appropriate measures' involves a number of factors but perhaps most important to those who operate and maintain water services in a dental practice are sections:

- Emphasising the need for robust governance and management
- Outlining the responsibilities of the water safety group and how this relates to the provision of safe water in healthcare premises
- Summarising key criteria and system arrangements to help stop the ingress of chemical and microbial contaminants, as well as microbial colonisation and bacteria proliferation
- Demonstrating temperature regimes for sanitary outlets to maintain water hygiene
- Offering a simple summary of possible potential waterborne pathogens.[3]

As for ALCOP 08, it contains practical guidance on how to manage and control the risks posed by the practice's waterlines. Following this guidance offers the dental team considerable reassurance that legal requirements are being met or, at the very least, an effort to meet them can be proven, should any complaint or problem arise.

In essence, the responsible person in the practice needs to:

1. Identify and assess sources of risk
2. If appropriate, prepare a written scheme for preventing or controlling the risk
3. Implement, manage and monitor precautions
4. Keep records of the precautions taken
5. Appoint a competent person to help take the measures needed to comply with the law.[4]

## Dipping your toe in safer waters

As John Milne, the CQC's Senior National Dental Advisor, wrote, 'A variety of products are available to disinfect waterlines and they should be used daily according to [the] manufacturer's instructions.' However, he added: 'Not all products completely remove biofilm […].'[5]

> ***'SOME MICROORGANISMS THAT LIVE IN WATER ARE HARMLESS, BUT ALSO LURKING IN THERE MAY BE THE LIKES OF LEGIONELLA BACTERIA, PSEUDOMONADS AND MYOBACTERIA SPECIES'***


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# Product news

Product news is provided as a service to readers using text and images from the manufacturer, supplier or distributor and does not imply endorsement by *BDJ Team*. Normal and prudent research should be exercised before purchase or use of any product mentioned.

## STATE-OF-THE-ART CHILDREN'S DENTAL PRACTICE OPENS

Happy Kids Dental is a revolutionary idea in children's dental care: a state-of-the-art practice designed to not only provide a high standard of paediatric dentistry, but to be a fun and exciting place for children – and one they'll look forward to visiting. It opened recently in London's Marylebone, founded by dentist and practice director Dr Roksolana Mykhalus, and is already welcoming children and their families through the doors.

The physical features of the practice include a bright, colourful jungle theme throughout the welcoming reception area, 15 surgeries, patient consulting rooms and sedation suite. The reception area offers families visual entertainment, drinks and refreshments and comfortable cushioned seating, and the toilets are fully accessible and have a baby-changing unit.

The practice was designed to resemble a jungle theme park, filled with animals and toys, to excite and engage children of all ages, and the dental chairs themselves are colourful 'flat' style beds in childsize proportions. Ceiling-mounted TV screens feature above the chairs in all 15 surgeries and there is also an interactive 'brushing station' to teach children oral hygiene in a fun way.

Happy Kids Dental sets a whole new standard in British paediatric dentistry, from a staff led by consultant paediatric dentists to the latest dental technologies. Underpinning all of this is a physical practice so unlike any other that children visiting the dentist feel like they're being given a treat.

www.happykidsdental.co.uk

## HIGHLIGHTING PREVENTIVE DENTISTRY FROM AN EARLY AGE

Simplyhealth Professionals is offering free access to YDEPPA (Young Denplan PreViser Patient Assessment) as an exclusive benefit to all of its member practices as part of their aim to highlight the importance of preventive dentistry from an early age. Building on the strengths of the well-established DEPPA for adults tool, YDEPPA is an online facility which provides a framework for a holistic oral health assessment of a child.

The primary benefit of YDEPPA is to support communication with young patients about their oral health and help motivate them to make improvements. YDEPPA reports offer personalised biofeedback in a patient friendly manner. A RAG (red/amber/green) system of happy or unhappy faces is used to flag the standard of health for each component. YDEPPA focuses on three key areas for oral health: hard tissues, periodontal health and the developing dentition/occlusion. A personalised prevention plan for each patient is also produced, providing clarity for the patient and their parent or carer.

YDEPPA is very quick to complete, comprising just 14 questions. Reports can be either printed in hard copy and given to patients, or emailed to them with consent. YDEPPA reports also help patients to understand how their oral health has changed over time. Being able to view progress or changes over a longer period facilitates reinforcement of appropriate oral health related behaviour and allows clinicians the opportunity to highlight and discuss any new areas of concerns.

Free access to YDEPPA is available to Simplyhealth Professionals members. DEPPA is available free of charge to Denplan Excel members. For non-members interested in signing up to YDEPPA, a one month free trial is available for DEPPA which includes YDEPPA and access can subsequently be provided for a monthly fee based on the number of users in the practice. Practices should call 0800 169 9962 for further information.

## ALL-NATURAL, BIODEGRADABLE BAMBOO BRUSHES

Woobamboo, the leading bamboo toothbrush brand in the USA, is now available here in the UK. Keen to encourage adults and children to stay on top of their mouth maintenance with regular brushing, their range includes biodegradable and recyclable bamboo brushes and floss for the whole family.

Crafted from all-natural, biodegradable bamboo and with a stylish design, these cleaning tools are the perfect antidote to the plastic, unrecyclable and often garishly coloured toothbrushes shoppers will find in most supermarkets and pharmacies.

Not only will patients be getting a deep clean thanks to the high-quality dental grade bristles, they will also be contributing to the conservation of the planet by reducing plastic waste and opting for and eco-friendly alternative.

The bamboo brushes are made from moso bamboo (not the kind that pandas eat!), which is organically-grown in the mountains of China, and crafted in a family-owned workshop, further enhancing the brand's commitment to sustainability and conservation.

Other products that the brand sells include kids' toothbrushes, pet products, and their very own range of eco-awesome biodegradable floss, which is coated in natural wax and crafted in Italy.

Eager to ensure their whole line remains eco-conscious, every single product comes packaged in recycled and recyclable materials including soy based ink for printing. The dental floss has an ingenious design so that the packaging converts into its own dispenser, further reducing plastic waste.

WooBamboo's products are available to purchase at Revital, John Bell & Croyden, independent health stores, pharmacies, dental clinics and Amazon.

For more information about the product range, visit http://woobamboo.co.uk/.

## TRUE GENIUS

Oral-B's Genius brush, combined with the Oral-B App, provides the world's most intelligent brushing system, helping users to achieve the best possible at-home dental care.

It does this by combining the best cleaning technology - electric tooth-brushing - with the best guiding technology. Oral-B's oscillating-rotating-pulsating brush-heads provide an outstanding clean, while Oral-B's App makes sure that users brush for the right amount of time, with the right pressure, and that all zones of the mouth are covered evenly. Even the best cleaning and brushing technology in the world cannot help if it isn't applied everywhere evenly.

The position detection capability of the Oral-B Genius is what sets it apart. Other brushes cannot detect where users brush in their mouth as Genius can. Their systems give recommendations on where to brush, but cannot track if indeed the user brushes where their app tells them to do. If the user does not follow the guidance given on the app-screen, their brushes cannot detect where the brush is, and cannot help the user to brush correctly, or to improve their brushing style.

## A SUPER-DUPER AUTOCLAVE

Prestige Medical, worldwide decontamination product specialist, has launched its state-of-the-art autoclave, Advance Pro.

The Blackburn, Lancashire based company, an expert in the development and manufacture of sterilisation equipment, has now added Advance Pro to its extensive portfolio, which also includes the Anima, Visage, PodiaClave+ and Classic range of autoclaves.

The new Advance Pro features the innovative FlexiRack system; a first within the industry, this unique aluminium rack can support 12 individual rails and can be arranged into 20 different configurations.

Another highlight of FlexiRack is the ground-breaking Heat Transfer System, designed and developed to take full advantage of the high performance thermal conductivity properties of aluminium.

The class B steriliser, which includes non-vacuum cycles for maximum flexibility, is available with either a 16 or 22 litre capacity chamber and its compact style is ideal for worktops where space is limited.

Further enhancements include easy to use push button operation, backlit LCD display and pressure die cast door, with stainless steel reinforced Teflon coating, and easy change gasket system.

For more information on the Advance Pro contact sales@prestigemedical.co.uk or call 01254 844103.

# *BDJ Team* CPD

## CPD questions: April 2018

CPD: ONE HOUR

### Gaining confidence in local anaesthesia

1. a) it is extremely important to check a patient's medical history/medication and recreational drug use before they are anaesthetised; b) the toxic dose of lidocaine for a small child weighing 20 kg is three cartridges

A) both statements are correct
B) only a) is correct
C) only b) is correct
D) both statements are incorrect

2. Choose the **false** statement

A) the toxic dose of lidocaine is 4.4 mg per kg of body weight
B) lidocaine is a suitable local anaesthetic for all ages
C) lidocaine topical takes 2-4 minutes to work
D) benzocaine is contraindicated for children under three years of age only


3. Which of the following is **not** recommended by the author for the injection stage?

A) aim for the bevel of the needle to be close to the apex or in between the apices of the tooth you are anaesthetising
B) for IDB, it is necessary to hit bone
C) slowly waggle the lip during infiltration
D) get the patient to open their eyes at the point of penetration

4. Select the **correct** statement:

A) you should wait 2-3 minutes for infiltration anaesthesia to take effect
B) you should wait 2-3 minutes for an IDB to take effect
C) if the lower lip is tingling following an IDB you should abort the procedure
D) the dental nurse should resheath the needle used on the patient

*BDJ Team is offering all readers* **10 hours of free** *CPD a year on the BDA CPD Hub! Simply visit* **https://cpd.bda.org/login/index.php** *to take part!*

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*BDJ Team* CPD is available through the BDA CPD Hub. This site is user-friendly and easy to use. There are still 10 hours of free *BDJ Team* CPD on the CPD Hub from 2017, in addition to this year's CPD hours.

Just visit https://cpd.bda.org/login/index.php.

To send feedback, email **bdjteam@nature.com.**