

# BDJ Team

JUNE 2016

## MANAGING RECEPTION

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# June 2016

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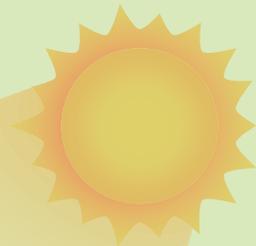
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# Ed's letter



Has your dental team posed with a smiley face prop or a gummy grimace recently? 2016 has seen the return of National Smile Month – celebrating its 40th year – and the launch of a new campaign from the British Society of Periodontology (BSP): #howsyoursmile, to raise awareness of gum disease in support of European Gum Health Awareness Day on 12 May. To find out more about both of these campaigns and to get involved yourself, see our news pages, and let us know what special events your practice has been involved with this season. We'd love to publish your photos on the *BDJ Team* website!



As the eyes are the 'window to the soul', the dental reception reflects the attitude of the whole dental practice – so says Mike Young in his cover story in this issue. Put yourself in a patient's shoes: what do they see when they first come through the door to your practice? Is the receptionist warm, welcoming and smiling, or is he or she chewing gum and busy ordering a new outfit for Saturday night? Learn about the importance of creating a good first impression with patients.

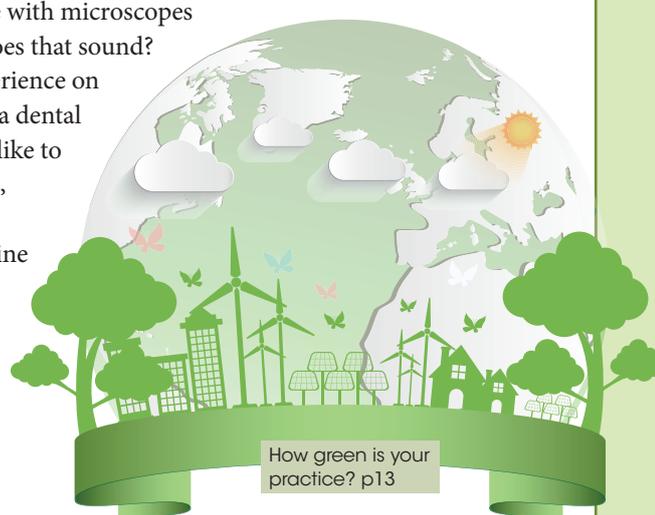
This issue also features a CPD article related to the GDC-recommended topic: oral cancer: early detection. This original *BDJ* paper looks at whether dentists or dental hygienists/therapists have more accurate detection skills and discusses the importance of adequate training for all members of the dental team.

Also for June, we meet dental therapist Maddy Johnson who mixed pizza, pasta, gelato and (possibly) swarthy Italians riding Vespas with learning how to diagnose and treat periodontal disease with microscopes and lasers. How much fun does that sound?

If you have had an exciting experience on the road to becoming qualified as a dental professional and think you might like to share it with DCPs across the land, I would love to hear from you. Until next time, enjoy the sunshine and keep smiling!

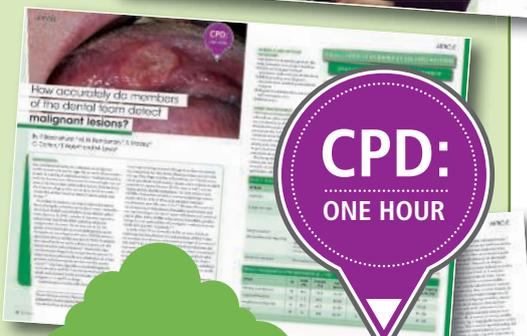
Kate

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**ONE HOUR**

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## THE TEAM

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## NATIONAL SMILE MONTH CELEBRATES 40 YEARS

The 40<sup>th</sup> anniversary celebration of National Smile Month took place at Kensington Roof Gardens in London on 10 May 2016.

Created by the Oral Health Foundation (formerly the British Dental Health Foundation), National Smile Month is an opportunity for communities to come together and be inspired to help spread positive messages of oral health.

This year's National Smile Month runs from 16 May to 16 June and dental practices and organisations are encouraged to get involved by organising activities and events which will promote oral health within local communities, with a focus on three key messages:

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

The Foundation suggest organising a smileathon with the smiley prop (modelled



*BDJ Senior Managing Editor Ruth Doherty (left) and BDJ Team Editor Kate Quinlan at the 40 year celebration and launch of National Smile Month 2016*

here by *BDJ* staff); a two-minute collective toothbrushing challenge; organising a school visit to deliver oral health education in the classroom; holding a mass brushathon; or organising fundraising events. For more information and inspiration visit [www.smilemonth.org/events](http://www.smilemonth.org/events).

## BSP GETS MOUTHIE ABOUT GUM DISEASE

On 12 May this year, for the first time in its 67-year history, the British Society of Periodontology (BSP) took the bold step of launching an innovative UK-wide campaign to raise awareness of gum disease and its far-reaching impact on general health.

The BSP is using the power of social media and some eye-opening face cards to show how you could look with gum disease - providing a fun way to draw attention to gum health - which were available via the campaign website and distributed around dental practices, pubs, universities and an event at London's Westfield shopping centre.

BSP President Dr Phil Ower, who was recently interviewed in the *BDJ* (220: 382), said: 'As gum disease is a serious public health issue, affecting the quality of life of over half the population, we felt it was time to shout a little louder. We have been met with fantastic support from a variety of organisations.'

The campaign is a new departure for the BSP as it is aimed at the whole country - primarily the public, but health and dental professionals too. The message of the campaign is 'If left untreated, gum disease will wipe the smile off your face'.

12 May was European Gum Health Awareness Day, part of the European Federation of Periodontology's campaign to raise awareness of gum disease across Europe, drive action and encourage people to have their gum health checked, and encourage people to participate in the campaign and spread the message.

The ultimate aim is to encourage people to visit their dentist if they suspect they may have any of the symptoms of gum disease and to visit [www.howsyoursmile.co.uk](http://www.howsyoursmile.co.uk) for more information.

## FIRST SMILES INITIATIVE TO RETURN TO UK SCHOOLS

The British Society of Dental Hygiene and Therapy (BSDHT) are thrilled to announce the return of First Smiles on Friday 17 June 2016, an initiative aiming to bring oral health education to young children in their own classroom.

First Smiles encourages BSDHT members to enter schools and nurseries across the UK to deliver fun and accessible lessons to children regarding the importance of good oral health, and to teach them the necessary habits needed to maintain a healthy smile for life.

President of the BSDHT, Michaela O'Neill, said: 'First Smiles launched last year to huge success; our amazing BSDHT members really helped to make a significant difference to children's oral health by engaging with thousands of children in classrooms across the country.'

'Our members, as well as schools and nurseries across the UK, have really embraced this potentially life changing initiative; we are really proud of what we

have achieved so far but there is still so much more that we think we can achieve.

'This year we want the programme to be bigger and better; we want your help to ensure important oral health messages reach many more children.'

This year the BSDHT are delighted to announce that Oral B have generously provided toothbrush and toothpaste samples to help First Smiles reach its important objectives.

The campaign is open only to dental hygienists, dental hygienist-therapists and students who are BSDHT members.

Whether it's their first tooth or their first visit to the dentist, a child's early experiences of oral health can impact on the rest of their lives. BSDHT members who wish to take part and make a difference can find out more about First Smiles at [bsdht.org.uk/First\\_Smiles](http://bsdht.org.uk/First_Smiles).

To find out more about the benefits of membership with the BSDHT visit [www.bsdht.org.uk/membership](http://www.bsdht.org.uk/membership).



## BOS LAUNCHES NEW GUIDE TO EMPOWER ADULT PATIENTS

On 10 May 2016 the British Orthodontic Society (BOS) launched a new online resource to support the decision-making of the rising number of adults opting for orthodontic treatment.

The BOS Guide: Orthodontics for Adults is a first for BOS in that it's designed for patients to read before they see a clinician.

There have never been so many different treatment choices for patients. Last month BOS warned against websites offering DIY orthodontic treatment because of the risk they pose, posting a statement on the BOS website: <http://www.bos.org.uk/News-and-Events/BOS-Statement-Do-it-yourself-braces>. The statement strongly advises against any treatment which bypasses a consultation with an orthodontist or dentist.

The BOS Guide covers all aspects of orthodontic decision-making: why, how, where and who. Each section has key points or tips which guide the patient towards getting the information they need to make the right choice for them.

A complementary video featuring Professor Tim Newton, Professor of Psychology as applied to Dentistry, contains advice on the questions to ask a clinician.

Alison Murray, President of BOS, said at the press launch for the new guide: 'We welcome the growth of interest in orthodontic treatment but we want to ensure that individuals are empowered to understand the choices they are making.'

'We really want the guide to adult orthodontics to give potential patients the full picture and to highlight that orthodontic treatment can be complex. Our aim is to provide information which will help adults wanting treatment to become more discriminating consumers.' [www.bos.org.uk/adultorthodontics](http://www.bos.org.uk/adultorthodontics)



Orthodontics for Adults

the why, how, where and who

The British Orthodontic Society Guide

## TOOTH DECAY AMONG FIVE-YEAR-OLDS CONTINUES DECLINE

The number of five-year-olds suffering from tooth decay has dropped to its lowest level in almost a decade, according to the latest oral health survey published by Public Health England (PHE).<sup>1</sup> Less than 25% of the cohort suffers from tooth decay, a 20% drop since 2008.

This continues the downward trend seen since 2008, the first oral health survey of five-year-olds asking parents to opt-in. In 2008 31% of five-year-olds suffered tooth decay; in 2012 it was 27%. The pattern of dental health improvement among the age group shows the impact parents and carers can have in establishing good dental care habits from an early age.

There is still a great deal of regional variation. In the North West, a third (33.4%) of five-year-olds suffer from tooth decay, whereas only a fifth (20.1%) do in the South East. As with the two previous surveys, areas with higher levels of deprivation tend to have higher levels of tooth decay.

### Toothbrushing programme

PHE is working in partnership with national charity 4Children to explore the feasibility of a supervised toothbrushing programme

for the under 5s, based in their early years setting. The programme seeks to improve children's oral health by creating a fun, group environment for toothbrushing, setting the foundations for positive oral hygiene in later life.

The charity is exploring the practical implications of this programme in over 70 nurseries and 20 childminder settings, reaching over 5,500 young children. Considerations include potential costs; the impact on staff; the resources required; information for the settings; engagement with parents; partnerships with dental surgeries and the projected benefits to children's oral health.

1. Public Health England. National Dental Epidemiology Programme for England: oral health survey of five-year-old children 2015. A report on the prevalence and severity of dental decay. Available at: [http://www.nwph.net/dentalhealth/14\\_15\\_5yearold/14\\_15\\_16/DPHEP%20for%20England%20OH%20Survey%205yr%202015%20Report%20FINAL%20Gateway%20approved.pdf](http://www.nwph.net/dentalhealth/14_15_5yearold/14_15_16/DPHEP%20for%20England%20OH%20Survey%205yr%202015%20Report%20FINAL%20Gateway%20approved.pdf) (accessed 12 May 2016).

## DCPS' LANGUAGE SKILLS TO BE TESTED

The Oral Health Foundation has welcomed new measures which assess dental professionals' language skills when they come to work in the UK.

The charity believes the legislation will provide an extra level of protection for patients by ensuring they are able to fully communicate and understand every element of their treatment with their dental team.

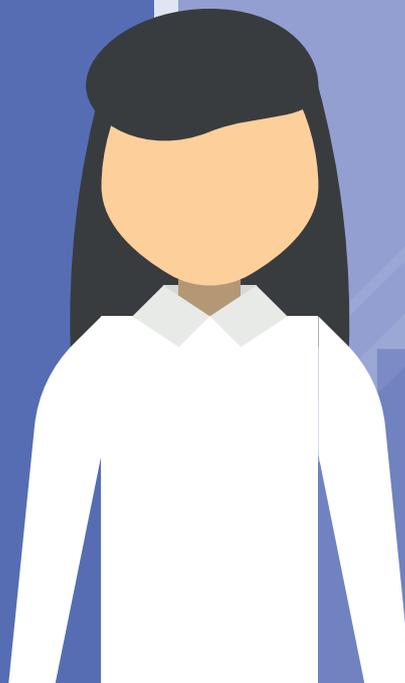
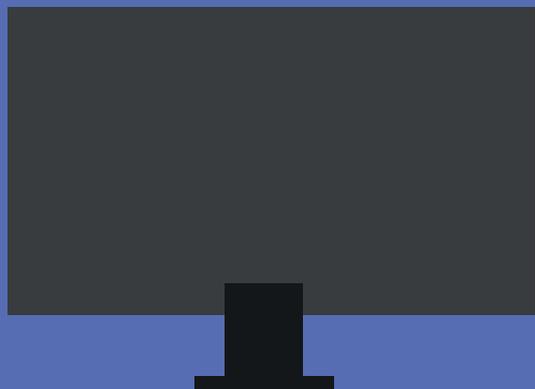
These new controls cover all dentists, dental hygienists, dental therapists and dental nurses who register to work in the UK

and aim to ensure they are proficient enough in the English language to communicate effectively with patients.

The measures came into force on 1 April 2016 and will be enforced by the General Dental Council (GDC).

Dentists and dental care professionals (DCPs) who apply to return to the GDC register will also have their proficiency in English language considered.

More information can be found at [www.gdc-uk.org](http://www.gdc-uk.org).



## Managing

# Reception

In the final extract of three from the second edition of his book, **Michael R. Young**<sup>1</sup> explains how to manage your dental reception.

### Managing reception

Creating the right ambience in your reception area/waiting room is important. It is possibly the first contact people have with a practice and their experience will set the tone, and will be presumed by them to reflect the attitude of the whole practice.

A good receptionist must always be smartly dressed and must balance speed and efficiency with professional charm and sympathy.

<sup>1</sup> *Michael R. Young is a former clinician, practice owner, and independent clinical negligence expert witness. His practice was one for the first in the UK to be awarded the British Dental Association Good Practice. He is now an author.*

They should always be prepared to listen to talkative patients (people often talk more when they are nervous) but at the same time be able to continue with their work without seeming rude.

Your receptionist is a crucial element in the patient management process: *you* plan the treatment, decide what is to be done, how long is needed to carry out the treatment, and specify any intervals between appointments; the receptionist then takes over responsibility for patient management.

After the treatment has been completed the receptionist plays an important part in the review phase of the management cycle for any particular patient, particularly if problems had occurred. Perhaps laboratory work was not back in time because the

receptionist had not allowed enough time between appointments (because the patient notes were not clear!). Or maybe you had not asked for enough time for an appointment (or the receptionist had to guess because the notes weren't specific enough!) and so your surgery ran late that day. This had a knock on effect for the hygienist's appointments; many patients were kept waiting and some of them voiced their dissatisfaction to the receptionist.

To be an effective part of the patient management process your receptionist must be fully conversant with practice policies, for example:

- How you expect your patients to be addressed, either face-to-face or on the telephone
- How to handle patients requesting an emergency appointment

- When and how appointments are to be cancelled
- How to deal with patients who turn up late for their appointment
- What to do if you are running late
- What to do about failed appointments
- How to deal with patients who turn up without an appointment
- How to register new patients
- Collecting payments from patients.

One other thing for which you should have an 'informal' policy is the circumstances under which you can be interrupted by a telephone call. This might be a simple 'Never!' or 'Only if such-and-such calls'. Your receptionist should know the rules and stick to them.

If you have decided that all patients are to be addressed by their title by the receptionist and nurse, and are only to be addressed by their first name by you and the hygienist, for example, then that is what should happen, every time. I have worked with young nurses who think it acceptable to address older people by their first name even though they hardly know each other. This may seem an old fashioned attitude, but in a professional organisation respect is important.

Being able to deal with patients who are demanding to be seen even though they are late requires tact. The receptionist has to be able to quickly assess the situation (has the patient travelled far? Was the patient unavoidably held up in traffic? Are they normally good time keepers? These are questions the receptionist needs to ask themselves). Set the rules, but give the receptionist permission to break the rules if necessary.

*I remember one day when a patient who lived on the other side of the Pennines failed to arrive for their appointment. It was not like them not to turn up. The waiting room was full when the patient turned up about 30 minutes late, full of apologies. An accident on the M62 had been the reason. I had a very good relationship with this patient and did not want to inconvenience them anymore than they had unavoidably inconvenienced me this particular day. My receptionist had reviewed the remainder of the appointment book for that session, weighed up how we could still see the patient and still finish on time. With a bit of juggling, time management and co-operation from other patients, we saw the latecomer, carried out their treatment as planned, saw everyone else, and finished on time. Everyone was happy, including the patient whose 100-mile round trip had not been in vain.*

- An excellent receptionist also needs to be:
- Extremely well organised
  - Approachable and accommodating
  - 100% focused on delivering excellent patient care
  - Confident, but not overconfident
  - An excellent communicator
  - Prepared to make decisions based on a sound knowledge and understanding of your practice policies and procedures.

insights about themselves, their families, their likes and dislikes, all of which could prove useful when it comes to caring for and treating them, and for working out why they like coming to the practice. Some receptionists are very good at this. I came across one who used to read the hatched, matched and dispatched columns in the local paper so that the practice could wish patients every happiness on their marriage, the arrival of a new baby, and to make

***'I HAVE WORKED WITH YOUNG NURSES WHO THINK IT ACCEPTABLE TO ADDRESS OLDER PEOPLE BY THEIR FIRST NAME EVEN THOUGH THEY HARDLY KNOW EACH OTHER. THIS MAY SEEM AN OLD FASHIONED ATTITUDE, BUT IN A PROFESSIONAL ORGANISATION RESPECT IS IMPORTANT.'***

Once your receptionist has proved capable of managing reception and has earned your trust, give them total responsibility for its performance. Employees value being given responsibility and will rise to the challenge. They must, however, understand that they also have to take full responsibility for any mistakes.

The layout and organisation of your reception desk is not something that can be prescribed in a book like this; it is something that will evolve as your receptionist discovers what works best for them and for the smooth running of the practice. However, you should give the receptionist everything they need to carry out their role. Equipment must work or be repaired or replaced as soon as possible. Stocks of essential items such as notebooks, pens and pencils must be maintained. The receptionist must know how everything they are going to use every day works, for example, the telephone system and the computer.

Enrol your receptionist in a dental nurses' course at the local college, that way they can help out in the surgery if ever the need arises. They must also be willing to occasionally swap with the nurse to increase their understanding and appreciation of what goes on in there. Your receptionist should be the epitome of efficiency, but they also need to be a people person.

*Hold this thought: empathy, sympathy and understanding are key qualities in a receptionist*

A receptionist is also an intelligence gatherer. Patients will pass the time chatting with the receptionist, revealing information and valuable

sure that recall appointments were not sent to deceased patients.

*The reception area can often end up as a meeting place for nurses when they have nothing else to do but stand around and chat. I didn't mind my staff doing this, however, I made it quite clear to them that when a patient approached and the phone rang, all talking stopped and the patient became the centre of everyone's attention. It's infuriating when you approach a desk, counter or whatever in any business and the staff, instead of welcoming you and asking how they can help, carry on talking about their night out or what they'll be doing at the weekend.*

Taken from **Managing a Dental Practice the Genghis Khan Way, Second Edition**

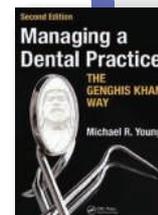
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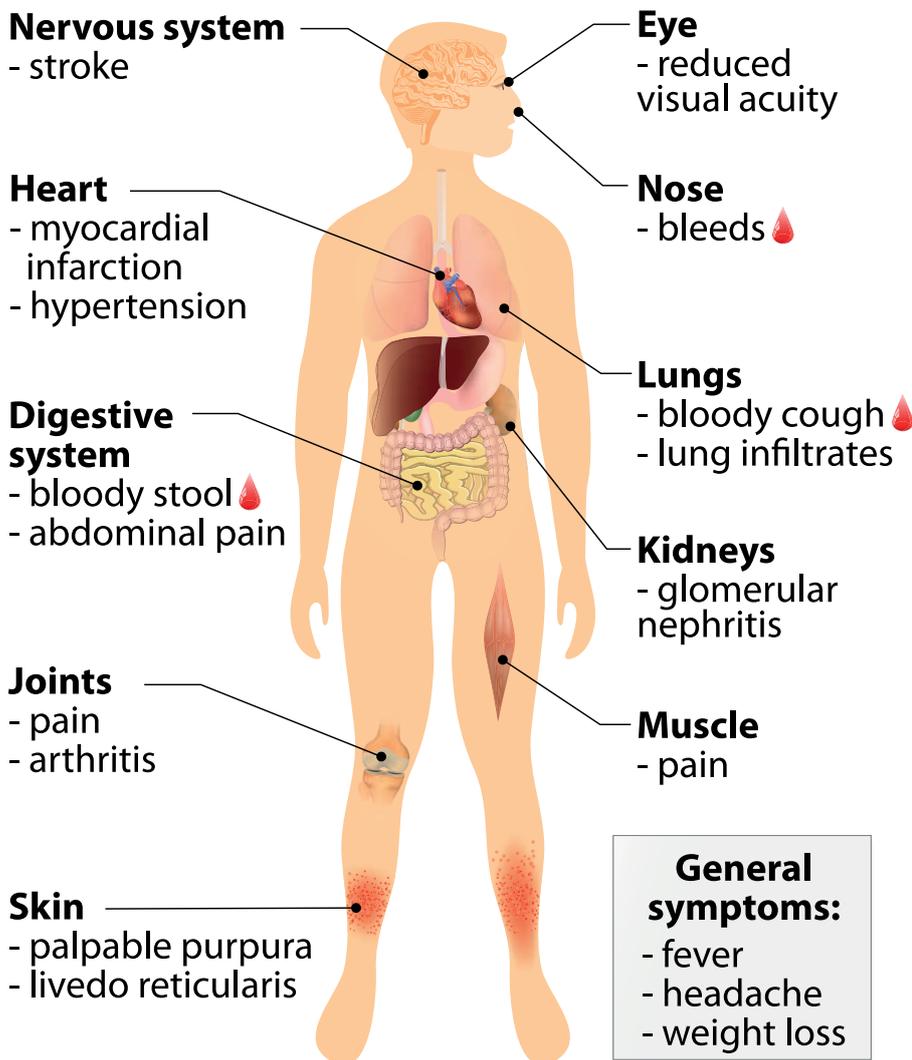
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# Vasculitis and the dental team

By John Mills<sup>1</sup>



## What is vasculitis?

Vasculitis means, literally, inflammation of the lining of the blood vessels and is an umbrella term covering illness ranging from acute localised hypersensitivity reactions to severe, auto-immune systemic, incurable life-threatening diseases.

Primary Systemic Vasculitis (PSV) is an auto-immune disease where neutrophils in the blood become activated and start to attack the cells lining the blood vessels. The resulting inflammation of the blood vessel walls causes blood flow to be restricted or for vessels to be blocked, leading to damage or necrosis of the tissues or organs that they supply. Small vessels and capillaries become leaky – resulting in the characteristic rashes and purpura of vasculitis.

<sup>1</sup> John Mills BDS (U.Sheff) DGDP (UK) qualified in 1966 and worked as a GDP in rural practice until retirement in 2006. He was secretary of Derbyshire County LDC for several years until 2012. In 2001 he contracted Wegeners Granulomatosis and is now chairman of the national vasculitis patient support charity, Vasculitis UK. [www.vasculitis.org.uk](http://www.vasculitis.org.uk) He is also a trustee of Genetic Alliance UK and a member of the Rheumatology Specialised Services Clinical Reference Group for NHS England. John is an advisor to the British Society for Rheumatology and European Treatment Guidelines Groups and a member of the Advisory Group for the Rare Auto-Immune and Rare Auto-Inflammatory European Clinical Reference Network.

The disease is incurable but can usually be controlled by medication and eventually brought into remission. There are 18 different types of PSV, some of which are extremely rare. They are classified by the size of vessels affected:

- Large (aorta and main arteries and veins)
- Medium (eg renal and gastro-intestinal arteries)
- Small (arterioles, venules and capillaries).

This last group particularly affects capillary beds in the lungs, kidneys, skin and mucosa – leading to necrosis and ulceration.

### Dental patients

Members of the dental team can have especially good opportunities to influence the health and well-being of patients well beyond just their oral health. Unfortunately, years of increasing specialisation and ‘payment by results’ has tended to focus the attention of dental professionals ever more closely on the oral cavity and less on the patient as a whole. However, we all know the importance of having a comprehensive, accurate and up to date medical history as a means of getting a holistic picture of the patient.

Most ‘healthy’ people visit their dentist more frequently than they do their GP, so a carefully taken and thoughtfully scrutinised medical history taken in the dental practice may reveal early signs of unsuspected disease. In addition, many whole body, systemic illnesses have oral or facial signs and symptoms that, if recognised, may lead to the diagnosis of an otherwise unrecognised condition. Certain types of vasculitis fall into this category.

In general terms, people of all ages and either gender can be affected, but some types affect predominantly either males or females. Some types such as Henoch Schonlein Purpura (HSP) affect mainly children; others such as Giant Cell Arteritis, mainly elderly patients.

Single or multiple organs can be affected by vasculitis and may include lungs, trachea, kidneys, skin, eyes, ears, joints, nose and sinuses, endocrine glands, heart, brain, central and peripheral nervous system.

### Oral and facial signs

Several types of vasculitis have characteristic oral or facial symptoms that if recognised by someone in the dental team may lead to an early diagnosis.

The three types of vasculitis with most distinctive oro-facial signs are Wegener’s Granulomatosis, now called Granulomatosis with Polyangiitis (GPA), Giant Cell Arteritis (GCA) and Behçet’s Syndrome.

### Wegener’s Granulomatosis

Patients may have recurrent or persistent eroding ulcers on lips and mucosa which may become large. They frequently complain of nasal and sinus problems, such as persistent stuffy nose and blocked sinuses with nose bleeds and nasal crusting. This can progress to destruction of the nasal septum resulting in collapse of the bridge of the nose – the characteristic saddle nose. Vessels supplying teeth and periodontal tissues may be restricted or occluded resulting in phantom toothache and strawberry gingivitis. This may result in pulpal necrosis without obvious reason and periodontal damage. Eye

**‘THE DISEASE IS INCURABLE BUT CAN USUALLY**

**BE CONTROLLED BY MEDICATION AND**

**EVENTUALLY BROUGHT INTO REMISSION’**

### Types of vasculitis

Some of the most aggressive types of vasculitis are associated with a particular circulating antibody, anti-neutrophil cytoplasmic antibody - or ANCA. This type of vasculitis is relatively rare, with an annual incidence of around 1,200 new cases in the UK. This category includes Wegener’s Granulomatosis (now called GPA), Churg Strauss syndrome (now EGPA) and Microscopic Polyangiitis (MPA).

signs may be red or bloodshot eyes due to scleritis or bulging eye due to formation of granulomas behind the eyeball.

### Giant Cell Arteritis

Elderly patients complaining of headache or visual disturbance may show characteristically prominent veins in the temporal area. Patients may complain of scalp tenderness, but most significantly may complain of pain in the jaw or tongue during mastication.



Fig. 1 Collapse in the bridge of the nose caused by granulomatosis with polyangiitis (Wegener’s). Note the hearing aid required for hearing loss due to concurrent middle ear disease



Fig. 2 Untreated GPA (Wegener’s) eroding through the skin between the nose and the right eye



Fig. 3 ‘Strawberry gingivitis’. GPA (Wegener’s) causing vasculitis of the gums

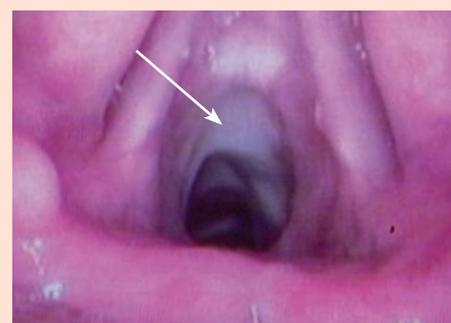


Fig. 4 Subglottic stenosis in GPA (Wegener’s). Note the narrowing to the airway (arrowed) just below the larynx



Fig. 5 Episcleritis in GPA



Fig. 6 Severe scleritis causing destruction of the cornea in GPA (Wegener's)

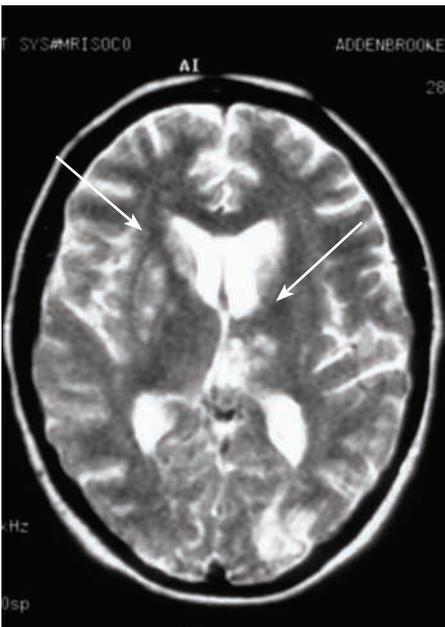


Fig. 7 Primary cerebral vasculitis confirmed by brain biopsy. Arrows indicate abnormal areas



Fig. 8 Scleritis

**Behçet's Syndrome**

Persistent oral ulceration is very characteristic of this type of vasculitis and may be the first sign of the disease. The ulcers start as raised erythematous swellings which then break down into an ulcer with a grey pseudo membrane over. Usually on the mucosa, they may spread to the hard palate, pharynx and tonsils. Even worse are the associated genital ulcers which can be more painful and deeper than the oral ulcers. They can be very resistant to treatment. There may be associated facial acne and uveitis in the eye.

of treatment. The principal aim of treatment is to suppress the immune system, but of course this renders patients more vulnerable to infections. In some cases it causes neutropenia, a severe lack of white blood cells and thrombocytopenia, with consequent risk of clotting problems.

After the induction phase of treatment, patients may take other less potent immune suppressing drugs as maintenance therapy for many years. When checking lists of medication, names of drugs to look out for are azathioprine, methotrexate and mycophenolate (Cellsept).

**'VASCULITIS IS SOMETIMES ASSOCIATED**

**WITH OTHER DISEASES SUCH AS CANCER**

**OR RHEUMATOID ARTHRITIS.'**

**Treatment**

Treatment is usually in two phases. Initial induction is with powerful immune-suppressing drugs such as cyclophosphamide, a chemotherapy drug most frequently administered as a series of six or eight pulsed IV infusions in conjunction with high dose steroids (prednisolone).

Once controlled, the disease is held in check by a maintenance regime using less powerful immune suppressing drugs (azathioprine, methotrexate, mycophenolate) in conjunction with lower dose prednisolone. This may continue for several years until full remission is achieved, but even then, relapse is common.

Prior to the introduction of cyclophosphamide in the early 1970s, some types of vasculitis such as Wegener's were invariably and rapidly fatal. However, cyclophosphamide has very much a 'scatter gun' effect, damaging all cells to some extent, thus causing serious side effects, such as loss of fertility, myeloid leukaemia and bladder carcinoma.

A more recent 'targeted' treatment regime, based on a manufactured monoclonal antibody, rituximab, is being used increasingly for both induction and maintenance.

Rituximab suppresses the B cells in the bone marrow that produce the rogue neutrophils. It does not affect fertility and is very effective for treating relapse.

Members of the dental team should be very conscious of the consequences and side effects

Glucocorticoid steroids (such as prednisolone) in high doses are an initial key element in bringing active vasculitis disease under control. Prolonged use of artificial steroids suppresses natural cortisol production, with the result that the body cannot cope well with physical stress such as dental extractions, with consequent risk of surgical shock.

In addition, repeated use of high dose steroids or long term low dose steroid use may induce diabetes and osteoporosis. To counteract the osteoporosis risk, patients are frequently prescribed bisphosphonates. These affect bone metabolism, reducing osteoclast activity, but in the dental context the reduced vitality of the bone may increase the risk of serious postoperative infection.

Vasculitis is sometimes associated with other diseases such as cancer or rheumatoid arthritis. Other auto-immune diseases such as systemic lupus and Sjögren's disease can have a cross-over and thyroid disease or pituitary disease can be associated.

The early recognition and diagnosis of vasculitis can have a profound influence on the outcome. Many signs and symptoms are non-specific, but taken together can join up the dots and make a picture. The dental team can help to supply some of those dots that complete the picture.

The full range of dental implications and consequences of vasculitis is not well researched and would make a good subject for a postgraduate study.

bdjteam2016100

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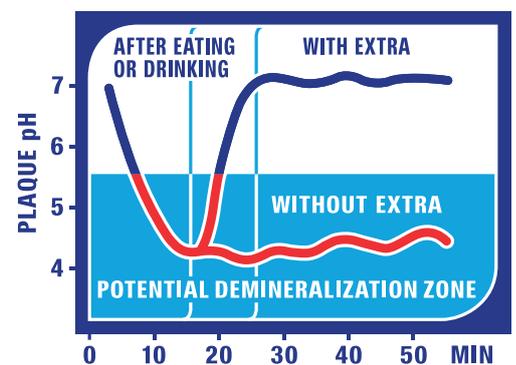
Independent clinical research proves that chewing sugarfree gum for 20 minutes after eating or drinking helps neutralise the plaque acid attacks that can cause tooth decay<sup>i</sup> and contributes to removing food remains<sup>ii</sup>



Increased flow of saliva also promotes the remineralisation of tooth enamel,<sup>iii</sup> thus reducing one risk factor for developing tooth decay<sup>iv, v</sup>

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<sup>i</sup>Alcantara E, Leveille G, McMahon K, Zibell S. Benefits of Chewing Gum: Oral Health and Beyond. Nutrition Today, Volume 43, Number 2, March/April 2008 <sup>ii</sup>Leach SA, et al. Remineralization of artificial caries-like lesions in human enamel in situ by chewing sorbitol gum. J Dent Res 1989;68:1064-8 <sup>iii</sup>Creanor SL, et al. The effect of chewing gum use on in situ enamel lesion remineralization. J Dent Res. 1992;71:1895-900 <sup>iv</sup>Beiswanger BB, et al. The effect of chewing sugar-free gum after meals on clinical caries incidence. J Am Dent Assoc. 1998;129:1623-6 <sup>v</sup>Szoke J, et al. Effect of after-meal sucrose-free gum-chewing on clinical caries. J Dent Res. 2001;80:1725-9 <sup>®</sup>Extra® sugarfree gum is beneficial for dental health as it helps neutralise plaque acids.



# How green is your practice?

**Neil Gallant<sup>1</sup>** presents five ways to improve energy efficiency in your dental practice.

**A**ccording to The Carbon Trust, the UK's healthcare sector spends over £400 million on energy per year. Rising gas and electricity bills, coupled with the UK's rather ambitious targets to cut greenhouse gas emissions by 80% by 2050 (based on levels in 1990), are forcing those in even the smallest dental practices to think more and more about their usage, and wastage.

Many will be wondering how they can possibly reduce their energy consumption, given the amount of high-tech equipment that is in constant use. But actually, there are plenty of ways that those working in the dental profession can do their bit to cut their carbon footprint and reduce their own costs in the meantime.

Read on for five top tips on how the dental profession can boost its energy efficiency from the inside out.

## 1) Go digital

Digital dental X-rays have transformed the way that dentistry works. It has made dental treatment safer and more convenient for patients, and it has also made the industry more environmentally-friendly. By converting to digital X-rays, many practices have taken the first important step towards being greener and

more high-tech. Conventional X-rays, amongst other issues, also carry the risks associated with disposing of toxic materials and lead foils. Going digital helps to tackle energy efficiency on two levels; not only does it cut down on your costs, it reduces the amount of non-recyclable materials that you produce.

## 2) Watch your water

Given that the act of brushing your teeth alone uses a great deal of water, and that dental professionals must keep their hands clean at all times, dental surgeries are responsible for using a lot of water every day. One of the biggest culprits for this is the simple act of dental professionals leaving taps running while a patient's teeth are cleaned and when staff are washing their hands. By being strict with your water usage and only using it when needed, dental practices will find that they can save a huge amount of water over a relatively short period of time. This will reduce your monthly water bills and have a positive effect on the environment.

## 3) Step up your waste management

For any medical or healthcare organisation, waste management is a big issue. There are numerous ways that dental practices across the UK can cut down on their waste and their carbon footprint at the same time.

<sup>1</sup>Neil Gallant is the owner and Managing Director of Neutronic Technologies Ltd. Neutronic specialises in providing maintenance and repair services to a broad range of manufacturing companies. They also place particularly strong emphasis on supplying products that help organisations to green-proof their operations



The first step is to ensure that your waste is being managed properly. Having separate bins for your general waste and clinical waste is key as it ensures that all refuse is dealt with in the most efficient and cost-effective way possible. Also, speak to the company that collects your waste, both medical and general, and question how it is disposed of. Nowadays, many companies will operate an 'energy from waste' policy where waste streams are recycled or the waste is disposed of in a way that turns energy into heat or electricity.

amalgam used in the dental industry is recycled and then returned to manufacturers in order to be used again. However, not all amalgam that is used in dental practices undergoes this process and steps must be taken to ensure that it does not enter the water supply. As part of a practice's efforts to become more energy efficient, fitting an amalgam separator to dental chairs and filters under sinks can ensure that every trace of mercury is collected and disposed of properly.

**'THERE ARE NUMEROUS WAYS THAT DENTAL PRACTICES CAN CUT DOWN ON THEIR WASTE AND THEIR CARBON FOOTPRINT AT THE SAME TIME'**

The biggest waste problem in the dental profession, or at least the one that has the largest environmental impact and potential for harm, is amalgam. Admittedly, the majority of

**4) Make simple changes**  
Even some of the simplest changes in a dental practice can actually save tremendous amounts of energy. The dental profession is renowned for using large amounts of electricity, from the tools themselves to the lights. One of the easiest switches to make in order to save energy is to swap any halogen bulbs you may be using for LED light

bulbs, as these can use up to 75% less energy than incandescent ones. They also last much longer, meaning you don't have to spend as much money on replacements in the future.

More and more dental practices are now exploring the use of waterless vacuum systems, a practice that first emerged in the United States. According to the International Academy of Biological Dentistry and Medicine, waterless vacuum systems can save approximately 300 to 500 gallons of water per day for each dentist. Not only will this help dental practices to cut down on their water bills, but it also drastically reduces the amount of water wasted and cuts down on the risk of contaminated water entering the main supply.

**5) Make high-tech changes**  
It's not just the suggestions made above that will help to drive energy efficiency amongst dental practices. The dental profession has undergone some major technology-driven trends over the past few years, including air-driven hand pieces and the use of local anaesthetics to name but a few. And as technology develops faster and becomes more innovative, it is likely that we will see more energy-efficient methods and pieces of medical equipment that will not only improve energy efficiency, but it will also enhance the quality of care given.

**Doing your bit**

The UK already had some extremely ambitious green targets in place, but following the COP21 Climate Talks that recently took place in Paris, there were discussions of a new target for the 195 countries that attended, which would require net-zero greenhouse gas emissions by the year 2050. If the world is to achieve these goals, then it is up to everyone to do their bit to reduce their carbon footprint.



bdjteam2016101

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# Educating the parents

The quickest way to address children's oral health could be influencing their parents and carers.

While 2016 sees British astronaut Tim Peake in space on the ISS space station, the UK's woeful children's dental decay statistics are competing to make headline news. This is a sad indictment of our times.

The alarming (and costly) rise of young children being admitted to hospital for extractions due to tooth decay has kick-started various initiatives, including the impending sugar tax, but this is going to take time to implement and its outcomes are largely unknown.

The quickest way to address children's oral health could be done at a 'grass roots' level by influencing those who care for them on a day-to-day basis. These are parents or carers of babies, toddlers and young children, largely mothers, who provide daily oral care even before the first child's visit to the dentist.

To reach this group effectively the dental profession needs to step outside its comfort zone, engaging with mothers directly, reaching out to those who influence them and having a presence in the communication channels mothers use on a day-to-day basis.

## Engaging with mothers

Oral care of babies, toddlers and young children takes place in the community, so it is imperative that education and support takes place in as many 'touch points' as possible: the home, doctor's surgery, NCT groups and mother and baby groups. Dental surgeries can help by providing easy-to-understand promotional literature with tips and advice.

A scan of the health education literature available at local GP surgeries or Health Visitors' baby weigh-in clinics show a dearth of oral care advice for young children, yet mothers spend more time here than at the dentist.

Whilst in Scandinavia oral health checks and advice is given with the six and 18-month baby check-ups, none is given in the UK. These are missed opportunities. Therefore, reaching out beyond dental surgeries and working with 'early influencers' is vital; these include GPs, midwives, health visitors, nursery personnel and teachers.

With longer working hours and more mothers entering the workforce, nurseries, schools and carers have an increasing role to play in teaching life skills to the next generation. Support of toothbrushing programmes in these environments may become increasingly important.

Dominique Tillen, Brush-Baby's Founder says: 'Mums are, by necessity, inventors: devising games to keep children happy, creating stories to help children fall asleep and even formulating recipes so that children will eat what they're supposed to eat! And when the need arises, we even invent products to make our lives easier.'

'As a health professional, I knew the importance of looking after my child's teeth. However, as a parent, I wanted to provide the best and I needed practical help to achieve this.'

'So, similar to parent-powered companies such as Ella's Kitchen who revolutionised the range and quality of baby food available, the Brush-Baby range has been designed with

**'ORAL CARE MESSAGING NEEDS TO EXIST WHERE**

**MOTHERS AND FAMILIES SPEND THEIR TIME'**

Oral care messaging needs to exist where mothers and families spend their time; each year there are numerous 'Baby Shows', the largest ones attracting over 20,000 parents, all keen to learn how to care for their babies and toddlers. Yet there is no official oral care representation at all. Tapping into the mother-mother online networks enable commercial companies to influence (and make sales), yet these channels used by thousands of mothers every day, appear largely unused by health educators.

Just as Jamie Oliver raised the profile of sugar, celebrities who place a value on great looking teeth and whom mothers and children engage with, can help raise the profile of oral care. While not used to date, Sara Hurley (Chief Dental Officer) appears to value this approach, and has recently suggested David Beckham for the role!

## Parent power

One mother frustrated by the lack of advice and suitable oral products for her baby daughter set up the company Brush-Baby, to provide advice and practical products to focus on 'Early Years Toothcare' needs from birth to six years, from care of toothless gums, through teething and onto mixed dentition.

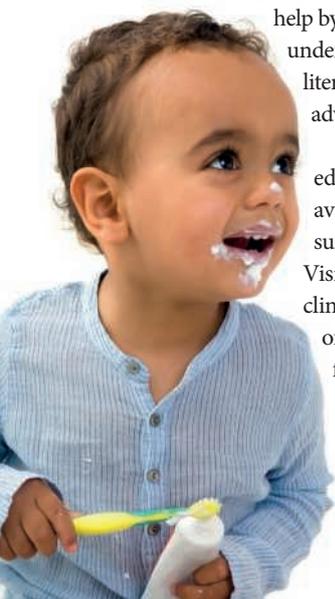
young children in mind, taking into account their dental development and the skills and behaviours that affect provision of oral care.'

Dominique concludes: 'Parents are one of a child's strongest role models and greatest influencers. We need to introduce an oral care regime in infancy in order to establish a long-term view on daily oral health routines, one that will stand a child in good stead through their dental development and onto a lifetime good dental habits, healthy teeth and gums.'

## Getting started early

The children of today (and tomorrow!) will not want to have our teeth, so it's good to get started early, teaching, encouraging and enabling young children to care for their teeth and adopt good oral healthcare habits to last a lifetime. Formalising and focusing on 'Early Years Toothcare' will raise the profile of the need to care for toothless gums through teething and onto a full set of teeth, and developing a simple routine for parents at this stage could help provide confidence, support parenting skills and raise awareness of the importance of baby teeth.

bdjteam2016102



# How accurately do members of the dental team detect malignant lesions?

By P. Brocklehurst,<sup>1</sup> M. N. Pemberton,<sup>2</sup> R. Macey,<sup>3</sup> C. Cotton,<sup>4</sup> T. Walsh<sup>5</sup> and M. Lewis<sup>6</sup>

## INTRODUCTION

Role-substitution describes the replacement of one type of healthcare worker for another, typically as a result of an extension of skills or widening of professional duties.<sup>1</sup> This has been used in medicine for some time, where nurses have increasingly taken on some of the clinical tasks performed by doctors. Evidence shows that it results in high quality care and good health outcomes.<sup>1-3</sup> Despite this, dentistry has been relatively slow to adopt these changes.<sup>4-6</sup>

In similarity to medicine, the range of clinical procedures that can be legally undertaken by the dental team is defined by the General Dental Council (GDC) and are detailed in their *Scope of practice*. In 2013, a number of important regulatory changes were made by the GDC, including substantive changes to this document. For the first time in the UK, patients were permitted to access dental hygienists, dental therapists and dental hygiene-therapists (DH-Ts) without a prescription from a primary care dentist (PCD). In addition, they were allowed to examine patients, diagnose and plan treatment within their competency.<sup>7,8</sup> Proponents argue that these types of regulatory changes have the potential to improve practice efficiency, the cost-effectiveness of service provision and release resources to increase the capacity to care.<sup>9-12</sup> Opponents argue that using dental hygienists, dental therapists and DH-Ts in this way is inherently unsafe and commonly cite the potential for missing oral malignancy as a significant danger.

Squamous cell carcinoma is the most frequently

occurring oral malignancy and although its incidence is relatively low compared to the other forms of human cancers, such as breast or lung, it has a high mortality and morbidity rate.<sup>13</sup> Mouth cancer can be preceded by visible mucosal changes which represent so called potentially malignant disorders (PMD), many of which contain varying degrees of epithelial dysplasia. The most common form of PMD is leukoplakia, which has an estimated global prevalence of 2.6% (95% CI: 1.72–2.74%) and an estimated malignant transformation rate of between 1–5%.<sup>14,15</sup> However, the extent and rate of progression of dysplasia in leukoplakia is not uniform and can vary according to the clinical variant of the lesion and individual patient. Other forms of PMD include erosive leukoplakia, speckled leukoplakia and erythroplakia, with malignant transformation rates of 28%, 82% and 85% respectively.<sup>16-18</sup>

A study in the UK has shown that PCDs can detect PMD and oral malignancy (sensitivity of 74% and specificity of 99%),<sup>19</sup> while meta-analyses have demonstrated sensitivity and specificity values of 85% and 97% for non-dentists.<sup>20-22</sup> Allied health providers have also been used in population screening programmes, which have resulted in a reduction in mortality rates in high risk groups and high values for sensitivity (93%) and specificity (94%).<sup>23-25</sup> Despite this, doubts over the safety of using dental hygienists, dental therapists and dental hygiene-therapists as a front line health worker with regard to mouth cancer remain.<sup>26</sup>

The aim of this study was to determine the comparative diagnostic test accuracy of different members of the dental team when examining standardised photographs of mouth cancer, PMDs and benign lesions.

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## MATERIALS AND METHODS

### Participants

Participants were sampled purposively. The study participants were grouped as follows:

- PCDs, including general dental practitioners and community dental officers
- DH-Ts, including dental hygienists, dental therapists and dual qualified dental therapists
- Hospital-based dentists from oral medicine and oral surgery clinics
- Dental nurses.

### Design and procedure

Following consultation with the University of Manchester ethics committee, the study was considered to be of low risk and was deemed not to require ethical approval. All participants who took part in the study did so voluntarily. It was delivered at the beginning of a structured continuing professional development event. No coercion or payment for participation was made. All the data was anonymised at source.

The demographic details of all the participants who agreed to take part were recorded and included: age, gender, year of qualification, extent of patient contact, place

## ‘EVIDENCE SHOWS THAT ROLE SUBSTITUTION RESULTS IN GOOD HEALTH OUTCOMES’

of work and the number of days per week working for the NHS. Following this, the participants were presented with information about the study and undertook a standardised five minute orientation package devised by three of the authors (PRB, MP and MAOL). This was delivered using a Microsoft Office PowerPoint 2003 presentation and introduced participants to the research task. Ten example slides were presented to the audience of mouth cancer, PMD and benign oral lesions. After each slide the audience were provided with an explanation of the classification of the lesion, within the context of the study. The training was kept deliberately brief to ensure the research team captured the participants’ performance before any educational component.

Following orientation, participants were asked to score 90 standardised clinical photographs of mouth cancer, PMDs and benign lesions of the oral mucosa. For each

photograph, the participants were asked to determine whether they felt the lesion was representative of mouth cancer or a PMD (test positive) or whether the lesion was benign (test negative) (Table 1). This was the index test. They were also asked to record their confidence in their decision on a 0-10 scale, where a score of ten represented complete confidence in their decision and zero represented no confidence. The photographs were presented under controlled lighting and the time delay between consecutive photographs was set at 12 seconds. Judgement decisions were compared against the known histo-pathological diagnosis of each lesion (reference standard) (Table 1). The study was undertaken during the period of September to December 2013, across four sites: Manchester, Liverpool, Rhyl and Cardiff.

### Calculation of sample size

Based on a two-sided 95% confidence interval for a single proportion (sensitivity or specificity) using the z-test approximation, with absolute precision of 0.1 and expected sensitivity of 90%, the number of cases that satisfied a power of 0.8 was calculated to be 35 ( $n \pm (Z^2/m^2) * p (1-p)$ ).<sup>27</sup> The prevalence of mouth cancer, PMD and benign lesions in general dental practice was reported in a prospective cohort study undertaken by Lim *et al.*<sup>28</sup> This data was used to inflate the sample size to ensure an appropriate number of benign lesions were included (Buderer’s method). As a result, 35 malignant or PMDs and 55 benign lesions were included in the test set of photographs.

### Analysis

Median sensitivity, specificity and positive and negative predictive values were calculated for each participant within each clinical group

**Table 1** Criteria for the study

Criteria	Detail
Index test	Visual examination of clinical photographs of mucosal lesions
Judgement task	Is the lesion before you malignant/potentially malignant (test positive) or is it benign (test negative)?
Target condition (test positive and negative)	Positive: oral cancer and potentially malignant disorders, which included: oral carcinoma, speckled leukoplakia, erythroplakia, leukoplakia, chronic hyperplastic candidiasis and atrophic lichen planus. Negative: benign lesions included: frictional keratosis, geographic tongue, salivary mucocoele, reticular lichen planus, pseudo-membranous candidiasis, minor aphthae and median rhomboid glossitis.
Reference standard	Histological confirmation

**Table 2** Demographics of the participants (n = 192)

Group	N	Male (%)	Female (%)	Age* (years)	Qualified* (years)	Patient contact* (days per week)	Time spent treating NHS patients (%)*
Primary Care Dentists	96	56.3	43.8	40–49	10–19	5	75–100
Hygiene/Therapists	63	1.7	98.3	40–49	10–19	4	25–49
Hospital-based dentists	9	58.3	41.7	30–39	10–19	5	75–100
Nurses	24	0	100	40–49	10–19	5	75–100

\*mode

using SPSS (version 20). The minimum, maximum and interquartile ranges (IQR) were calculated for both sensitivity and specificity of each clinical group as a measure of variability, along with the lower bound of the 95% confidence interval. The mean confidence score was calculated for each participant; the mean and standard deviation was then calculated for each category of clinician. Missing results were excluded from the analysis. Median sensitivity and specificity estimates were plotted in ROC space. Percentiles were plotted against sensitivity for each clinical group (using Stata 13).

Although the design was not an *in vivo* diagnostic test accuracy study, elements of the Standard for Reporting Diagnostic Accuracy (STARD) guidance was used as appropriate.

## RESULTS

Table 2 presents the demographic data of the 192 dental professionals that completed the study: 96 PCDs, nine hospital-based dentists, 63 DH-Ts and 24 nurses. The mode of the age distribution for the PCDs and DH-Ts was 40-49 years of age, while the hospital staff were 30-39 years of age. The mode of the distribution for the time since their primary dental qualification was 10-19 years. All the participants worked in a primary care environment except for hospital-based dentists. The majority of the participants time was spent working in the NHS (75-100%), bar the DH-Ts who worked for 25-49% of their time in the NHS.

Table 3 highlights the results of the study. The difference between the median sensitivity of the PCDs and DH-Ts was small (80.7% and 77.4% respectively). Again there was very little difference in their median specificity: 72.9% and 67.8% respectively. IQR of sensitivity was similar (19% from x-to-y in PCD group and 19% from x-to-y in DH-T group). This highlights the variance in the individual point estimates between and within the two clinical groups. The mean confidence in decision was higher in the PCD group (6.48 (1.57) compared to 5.88 (1.53)); while hospital-based dental staff had a higher confidence (7.73 (1.9) and nurses lower (3.73 (2.7)).

Figure 1 shows summary plots in receiver operating characteristic space of the individual participant's median sensitivity against false positives (1-specificity), for the PCD and DH-T groups only. A perfect sensitivity and specificity would see a point plotted in the top left corner, whereas the diagonal line represents a plot of sensitivity and specificity equal to chance. Figure 2 highlights the number of participants in the PCD and DH-T groups who missed frank

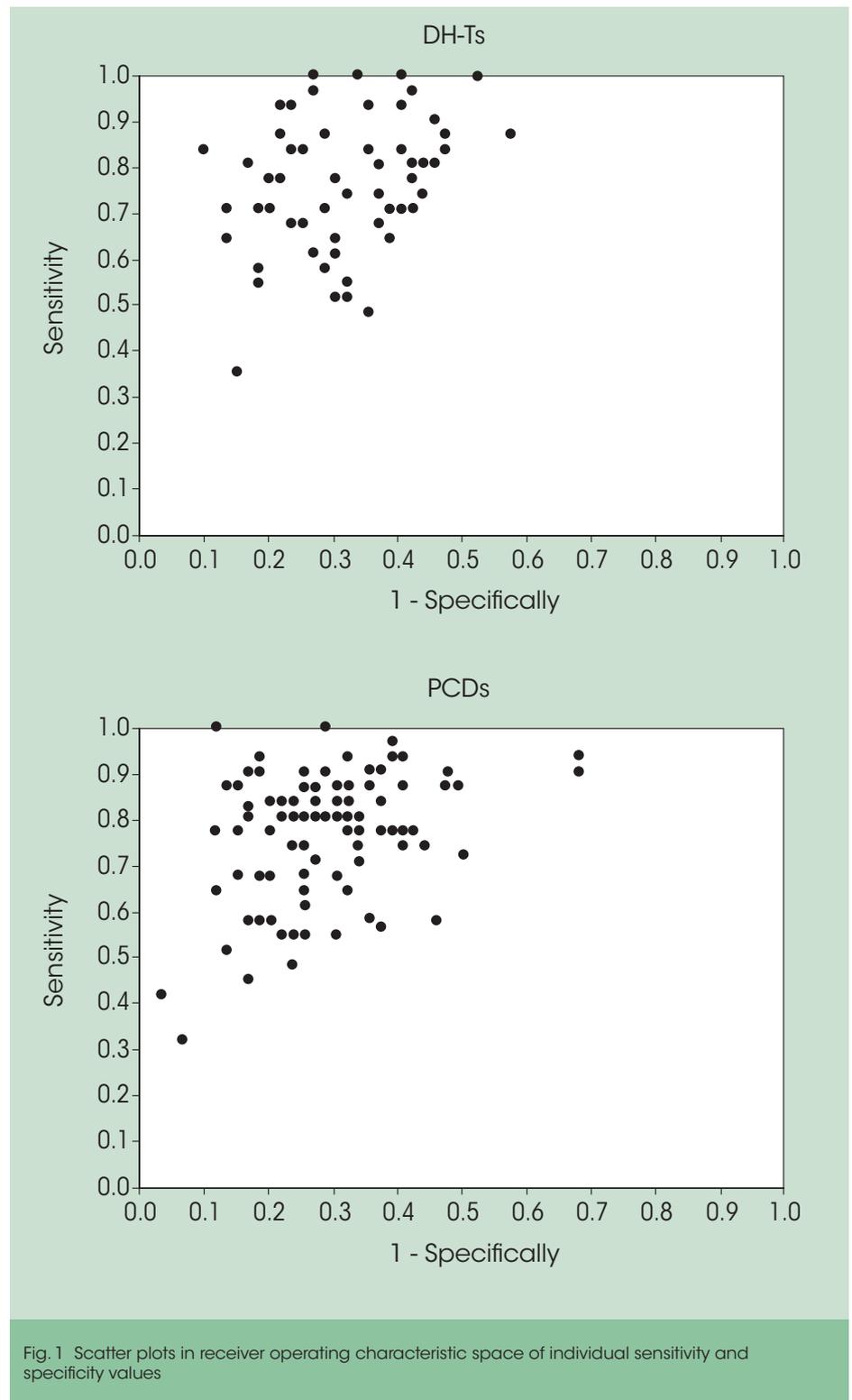


Fig. 1 Scatter plots in receiver operating characteristic space of individual sensitivity and specificity values

malignancy (oral squamous cell carcinoma) and identifies that 59% of DH-Ts did not miss any frankly malignant lesions compared to 48% of PCDs. Figure 3 presents percentiles of median sensitivity for each of the professional groups. While the 50th percentile identifies PCDs having a median sensitivity of 80.7% compared to 68.7% for the DH-Ts, by the 80th percentile DH-Ts had a higher median sensitivity 94.1% compared to 87.3% for PCDs.

## DISCUSSION

The results for PCDs and DH-Ts were comparable for both median sensitivity and specificity (Table 3, Fig. 1 and 3). Although the median values for sensitivity and specificity for PCDs were marginally higher than DH-Ts, DH-Ts missed fewer mouth cancers (Fig. 2). Furthermore, at higher percentiles (Fig. 3) the sensitivity of DH-Ts was higher. This suggests that the performance of DH-Ts is comparable with

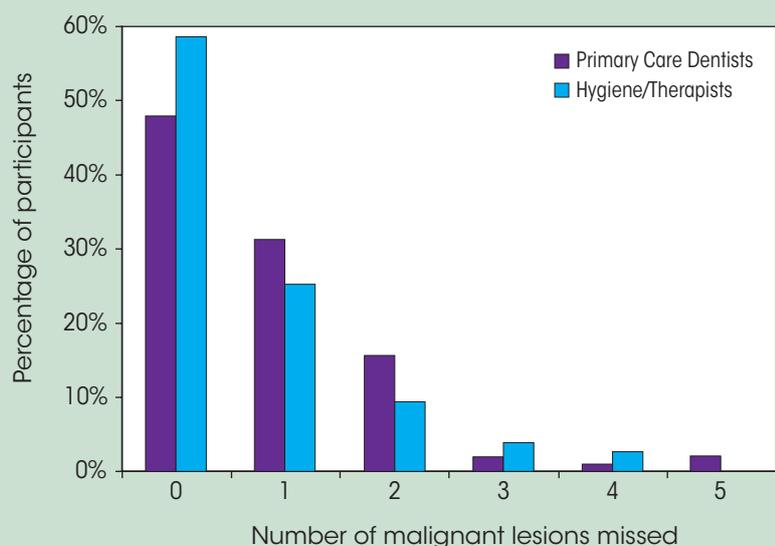


Fig. 2 Number of malignant lesions missed by PCDs and DH-Ts

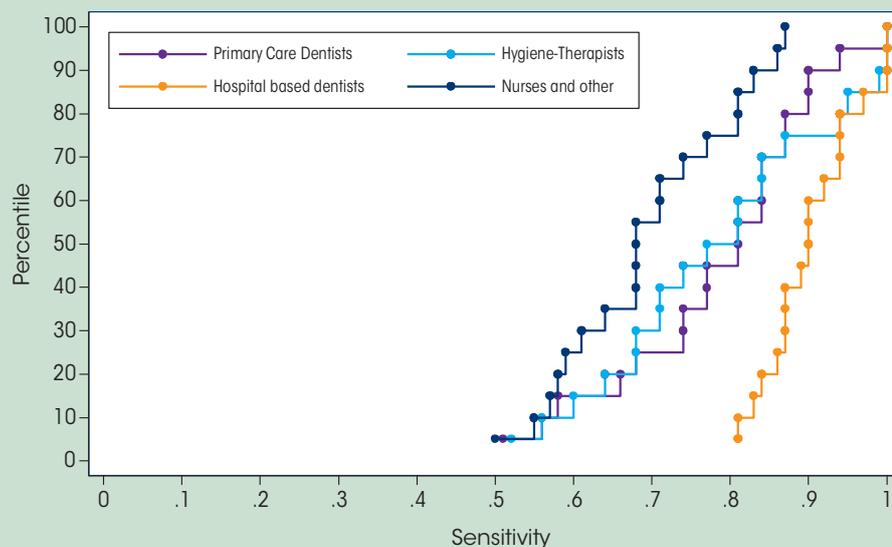


Fig. 3 Percentile of sensitivity compared across all professional groups

**‘THIS SUGGESTS THAT THE PERFORMANCE OF**

**DH-Ts IS COMPARABLE WITH PCDs AND IS**

**CONSISTENT WITH EARLIER STUDIES’**

PCDs and is consistent with earlier studies.<sup>25</sup> For all professional groups, median sensitivity was always higher than median specificity, suggesting that when uncertain participants would assign the lesion in the photograph as test positive. This produces a higher number of false positives and reduces positive predictive values (Table 3). It is intuitive that clinicians would refer on for further investigation if they are unsure and this concurs with the advice from oral medicine experts to refer when in doubt. Similarly the numbers of false negatives suggest that all the professional groups would only classify lesions as test negative when absolutely certain and would prefer to over-refer.

Although the summary estimates were similar, the minimum, maximum and IQR (Table 3, Fig. 1) highlight the variation within groups. This is another important finding and suggests that training remains paramount. This was recently recognised by the GDC in the UK, who now advises that mouth cancer should be considered as an essential part of a structured post-graduate dental education for all members of the dental team. A training programme adapted from the one used by Sankaranarayanan *et al.*<sup>23-25</sup> for health workers could be helpful here in improving the sensitivity and specificity of both PCDs and DH-Ts.<sup>29</sup>

The main weakness of the study is that the use of photographs is artificial when compared to the judgement ecology in a practice environment. The judgement decision was restricted to the visual appearance alone and therefore did not include patient risk factors. In addition, it was not possible to palpate the lesion, which forms an important part of any clinical examination. However, an *in vivo* study is problematic; the low prevalence of oral malignancy and PMD means that a large number of patients would need to be seen in a clinical environment to provide enough lesions in the study to satisfy the power calculation. In practice, the patients that present to PCDs and DH-Ts are predominantly healthy and so the number required to satisfy the parameters described in the power calculation above would be multiplied by the reciprocal of the prevalence of the rarest test condition ( $35 \times 100/4.1 = 853$  patients). A further weakness is that the study did not examine the ability of PCDs or DH-Ts to diagnose or manage benign oral mucosal lesions in primary care, only the ability to differentiate between these types of lesions. This would be an important extension. There were also some distinctions made about the classification of the different forms of oral lichen planus. For the purposes

**Table 3 Summary measures of sensitivity, specificity and confidence**

	<b>Primary care dentists</b>	<b>Hygiene/ therapists</b>	<b>Hospital-based dentists</b>	<b>Nurses</b>
<b>Sensitivity</b>				
Median	81%	77%	90%	68%
Minimum	32%	35%	81%	48%
Maximum	100%	100%	100%	87%
Interquartile range	19%	19%	9%	18%
Lower bound of confidence*	71%	71%	18%	61%
<b>Specificity</b>				
Median	73%	69%	76%	59%
Minimum	32%	42%	68%	41%
Maximum	97%	90%	88%	92%
Interquartile range	16%	17%	10%	18%
Lower bound of confidence*	69%	64%	73%	53%
<b>Confidence</b>				
Mean	6.48	5.88	7.73	3.73
Standard deviation	1.57	1.53	1.9	2.7
*Approximate 95% lower confidence bounds on median				

of this study, reticular lichen planus was deemed to be test negative, while erosive and atrophic lichen planus was classified as test positive. This was a pragmatic decision based on the heterogeneity of the evidence in the literature.<sup>30</sup> However, this was made explicit at the start of the study in the orientation phase and would be the same for both clinical groups.

The importance of opportunistic screening for mouth cancer by the primary care dental team is not without its critique. The incidence of mouth cancer is relatively low in many developed countries<sup>13</sup> and is lower still for regular attenders.<sup>31</sup> In addition, the benefit of identifying early disease may not

necessarily confer an prognostic advantage due to field change, for example, malignant transformation of mucosa previously unidentified by a screen.<sup>32,33</sup> However, the five-year survival rate for mouth cancer has remained static and the most important determinants remain patient and diagnostic delay.<sup>34,35</sup> Therefore, the need for all front-line health workers to remain vigilant to early disease remains important and was again emphasised by the update of the Cochrane systematic review.<sup>36</sup> However, considerable heterogeneity remains in the behaviour of the dental team. MacPherson *et al.* reported that 63% of PCDs felt that they were not confident enough in their ability to screen and

subsequent descriptive studies have found that many still focus on signs of advanced disease rather than PMD.<sup>37-41</sup>

The results from this study suggests that DH-Ts are comparable to PCDs in the detection of mouth cancer and PMDs and that these members of the dental profession should be considered as competent as PCDs in this aspect of front-line healthcare delivery. However, training remains paramount to reduce the variation observed within each group. Further research to explore the ability of DH-Ts to manage benign oral lesions is warranted.

## CONCLUSION

DH-Ts performed comparably to PCDs in the detection of mouth cancer. This study confirms that DH-Ts should be considered as safe front-line healthcare workers with regard to mouth cancer. However, considerable heterogeneity was found within both groups of these dental professionals, which suggests training remains essential for all.

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**'THIS STUDY SUGGESTS THAT DH-Ts ARE  
COMPARABLE TO PCDs IN THE DETECTION OF  
MOUTH CANCER AND PMDs, HOWEVER, TRAINING  
REMAINS PARAMOUNT TO REDUCE THE  
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# ‘The training was intense but rewarding’

Dental therapist **Maddy Johnson**, 22, who lives in Leeds, went from VT to a four-month intensive training programme with IMI Clinics\* in Italy.

## Becoming a dental therapist

I am originally from Matlock in Derbyshire. When I was in year 10, I did a week's work experience at a local dental clinic in Matlock and since then I knew I wanted to choose a career in dentistry. I loved seeing patients being treated, so I tried to get as much experience as possible spending afternoons in various practices before going to university.

I left school and went straight onto my degree, BSc (Hons) Oral Health Science at the University of Manchester, a three-year course. I really enjoyed my course, mainly because we were taught in such a small, close-knit group. It was very hands-on, so aside from lectures and tutorials, we were also given case studies to work on which is so important for preparing you for the real world.

I really enjoy the prevention side of my role and am very motivated to help people achieve good oral health.

## Vocational training

When I graduated I decided to do optional vocational training (VT) for dental therapy as I was keen to gain more practical and clinical experience. I also gained lots of insight and it really helped when working with kids.

When I finished VT, I realised my perio knowledge was lacking. IMI had contacted our tutors at the university to inform them about the clinic they were planning to open in Leeds – the first IMI Clinic to open in the UK. That was how I found out about IMI and

started looking into the training programme. This was the first time I'd heard of laser-assisted therapy guided by a microscope. It really intrigued me to find out more.

I had an interview with IMI and visited the clinics in Italy (where IMI was founded) in Florence, Turin and Milan during a week's work experience in September 2014. I saw three parts of the IMI network, met the teams and saw their work in practice. They were like no other clinics I had seen.

## Moving to Italy

I started a four-month intensive training programme with Dr Francesco Martelli, IMI's founder and lead clinician, in April 2015. The timing worked perfectly with me finishing my vocational training. I joined a small group of Italian trainees and took part in various tutorials and hands-on practice on mannequins. I also shadowed Dr Martelli in the IMI clinics in Italy. It was fascinating to see him work and getting one-to-one training was fantastic.

I spent a year in Italy in total, based in Milan, Florence and Padua. The training was intense but rewarding. Building on my UK training in Manchester I had to approach patient therapy differently and develop my knowledge even further. I was using new equipment, for example the Nd:YAG laser and microscope, and I was learning a new approach to treating patients with periodontal disease. With the help of IMI and under the supervision of Dr Martelli I learnt all about the Perioblast protocol. Having the chance to assist and observe minimally invasive surgery and other dental procedures with the use of the microscope and lasers extended my knowledge further.

Italy is a wonderful country and I feel privileged to have experienced living there. A few of the team speak English so there wasn't too much of a language barrier but I made a real effort to learn some Italian by studying

\*IMI Clinics approach dental treatment through the use of non-invasive and biological procedures, focusing on periodontal health. Dentists and dental hygienists are trained by IMI (the International Microdentistry Institute) to use PERIOBLAST – PERIODontal Bio Laser ASsisted Therapy to 'eliminate' periodontal pathogens below the gum line in conjunction with scaling and root planing.



and having some lessons after work. Living in Italy was fantastic and my Italian colleagues are now friends. I will definitely be visiting – both for work and pleasure!

### **A new way of working**

I had never come across the IMI way of working before, so it was all new to me, but really amazing to be learning such a cutting-edge technology in dental therapy. One of the major differences is that all the work we do is guided by microscopes. This enables such precision. It sounds obvious, but it's really incredible how much more you can see this way. With practice working this way becomes second nature. It's also great for patient compliance. Showing the patient how to clean each tooth with care is so much easier when magnified onto a TV screen. By looking at the patient's pre and post-treatment microbiology we can identify bacterial load and demonstrate a positive improvement. Using lasers can reduce the need for surgery, they're minimally invasive and they can promote the regeneration of bone in infra-bony defects. Combining all these factors means that patients with the right follow-up can achieve good oral health and help to keep their teeth for life. Dr Martelli and his team developed the system with 25 years of experience and practical application in Italy.

### **Back in Britain**

I returned to the UK in April 2016. The Leeds IMI Clinic opened in May so we have been busy welcoming new patients and taking bookings. I feel lucky to be part of IMI and the first clinic launched in the UK. It's an exciting time for the business and for dentistry in the UK.

### **Downtime and future plans**

When I'm not at work I enjoy travelling and spending time with my family and friends. My family are really excited about the way my career is going.

I like to make sure everyone near and dear to me knows the importance of maintaining their oral health. No doubt my family will be booking appointments with the team at IMI Leeds!

My plans for the future are to continue to build my knowledge and maybe do some research. In the long term I would like to take on more of a training and development role.

### **Three things I can't live without**

Ice cream (so Italy was perfect!), my phone and of course my toothbrush.

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*'LIVING IN ITALY WAS FANTASTIC AND  
MY ITALIAN COLLEAGUES ARE NOW  
FRIENDS. I WILL DEFINITELY BE VISITING  
- BOTH FOR WORK AND PLEASURE'*

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are using a mix of up to 14 different methods to clean their dentures ranging from soap and water to bleach. In one study only 12% of subjects had clean dentures.

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By 2050 our global population of those aged 60 years or older is expected to more than double to two billion people. Statistics reveal the older you are the more likely you are to be edentulous.

Research shows that denture patients

## A BRAND NEW DISPOSABLE DENTAL FLOSS

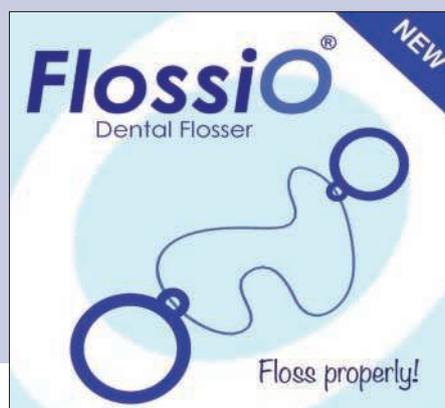
Joseph Dargan, a dentist from Dublin, has developed a new disposable dental flosser called FlossiO. FlossiO is designed to imitate and simplify the technique of conventional flossing without its disadvantages.

FlossiO consists of a loop of dental floss held by two finger rings. A unique feature is that the user can easily move to a fresh piece of floss for each tooth, rather than using one short length of floss that will transfer plaque and bacteria around the mouth. Crucially, this can be done without taking the rings off the fingers due to the patented design that allows the floss to move through the rings. The loop of floss has been designed so that just the right length of floss is stretched by the fingers to achieve the best balance of tautness and strength.

FlossiO is packaged in individual sachets

for hygiene and portability. It fits easily into a pocket or purse and the used floss can be stored in the sachet until disposal.

Dr Dargan has been raising awareness and funding for FlossiO using [www.indiegogo.com](http://www.indiegogo.com) and plans to have the product ready by the summer. For more information, visit [www.flossio.com](http://www.flossio.com).



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# CPD questions June 2016

## How accurately do members of the dental team detect malignant lesions?



- In which year did the GDC give permission for dental hygienists, dental therapists and dental hygiene-therapists to have access to patients without a prescription?
  - 2010
  - 2011
  - 2012
  - 2013
- Which of the following was **not** classified as potentially malignant?
  - pseudo-membraneous candidiasis
  - erosive lichen planus
  - atrophic lichen planus
  - chronic hyperplastic candidiasis
- Regarding oral cancer:
  - the five-year survival rate has remained static
  - the incidence is relatively low in developed countries
  - the incidence is low for regular attenders
  - identifying early disease always confers a prognostic advantage
- Which of the following was **not** mentioned in the article?
  - DH-Ts missed fewer mouth cancers than PCDs
  - PCDs are more likely to focus on a sign of advanced cancer rather than PMD
  - the study included an assessment of patient risk factors for each lesion viewed
  - a report found 63% of PCDs were not confident in their ability to screen

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