

and researchers, or even conducting studies. For example, a researcher can sit in their office and interview a participant at their home, using augmented reality (eg hologram) with a 4D experience. Another example is when assessing healthcare services, different scenarios could be created virtually and participants can be immersed in this virtual environment using VR goggles. The potential advantages include reducing the costs of running a study; ensuring the consistency of interventions for different participants; and minimising the risks that may be associated with different interventions in real world. Potential disadvantages may include: the cost of setting up the virtual environment and resources; the need for training of participants and researchers; and generalisability of the results to the real world.

It seems that a blended approach that combines reality and virtual environments can be employed in different aspects of healthcare research. Besides its challenges, it could also enable us to implement studies which may have not been ethically possible in the real world.

*M. Dorri, by email*

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## Patient safety

### Cardiac devices

Sir, following a review of the literature and previous correspondence of Balfrey,<sup>1</sup> Firth<sup>2</sup> and Alexander,<sup>3</sup> it seems clear that there is still confusion within the general dental community of the management of patients with implantable cardiac devices/pacemakers. A 2012 narrative review<sup>4</sup> attempted to provide guidance on the matter. The article references that some common ultrasonic scalers and ultrasonic baths do produce electromagnetic interference and may pose a risk to patients. This is supported by the British National Formulary (BNF)<sup>5</sup> recommending that 'some ultrasonic scalers, electronic apex locators, electro-analgesic devices, and electrocautery devices interfere

with the normal function of pacemakers (including shielded pacemakers) and should not be used.' However in opposition, a review conducted by Trenter and Walmsley<sup>6</sup> states that piezoelectric ultrasonic scalers are safe for use in patients with pacemakers.

Due to conflicting evidence on this topic it is the view of the authors that a review of the literature with cardiology specialist input is much needed in order to provide some clarity on the safe management of such patients.

*D. Raindi, Sutton Coldfield  
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## Anticoagulants

### Lack of research

Sir, I work in the oral surgery department of a London Hospital and regularly treat patients with significant co-morbidities many of which take an anticoagulant medication, primarily warfarin. Within the last year I have come across an increasing number of patients taking the newer range of novel oral anti-coagulants (NOACs), which do not require routine blood test monitoring.<sup>1</sup> I am, however, concerned at the lack of research (no clinical trials) and experience using these medicines along with dental extractions.

A recent case of a 78-year old-lady who had started taking dabigatran for atrial fibrillation approximately three months earlier, having previously taken warfarin for a number of years, highlighted this for me. She suffered considerable post-operative bleeding and bruising over a two-week period following extraction of the upper left wisdom tooth, which was completed under local anaesthetic via an atraumatic forceps technique with Surgicel and 3-0 Vicryl absorbable sutures placed as precautionary local haemostatic measures.

Despite being introduced in 2008 the NOACs are only just starting to be used

more frequently for conditions such as atrial fibrillation and prevention of stroke as an alternative to aspirin. Recommendation from the Scottish Dental Clinical Effectiveness Programme states that if patients are undergoing a low bleeding risk procedure no interruption in their medication should occur; an atraumatic extraction is considered to be low risk. For higher risk procedures, the medication should be missed on the day of their procedure; however, the evidence supporting these suggestions is of low quality.<sup>2</sup>

The case above was very distressing for the patient and her family; as a result I have concerns as to how dental procedures can be safely carried out on this new population. The decision to stop a medication can be of concern to both the dentist and patient if not fully considered with their physician.

*F. McDonnell, by email*

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## Advertising

### Longstanding dislike

Sir, as an admirer of Damien Walmsley, I have found that my longstanding dislike of the *BDJ's* practice of sticking advertising material to the front cover has been heightened since his series of images started to appear (Volume 221, 2016). Tell me please, what is the point of giving any thought to the design of the cover when it is covered every time?

*R. Bettles, by email*

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## Antimicrobial resistance

### Setting the record straight

Sir, we are delighted one reader thought the new antimicrobial prescribing toolkit was 'excellent' (*The toolkit blah, BDJ* 2017; **222**: 141). However, there did seem to be a few misconceptions, and I wanted to set the record straight.

Working in the NHS and facing the same decisions week in, week out I well understand the writer's frustrations. We do not set out to place any new obligations on this profession. Nor do we seek to fudge any of the issues around the UDA, and the constraints it has placed on our members' time.

The BDA will also never shy away from talk about funding, and that is why we are pursuing this vital issue on two fronts.

We want to help colleagues meet their professional obligations both to audit and to prescribe appropriately. That's why we have provided our members with this toolkit.

But we also believe they require funded emergency time. We've spoken personally to the CMO, to the CDO, to NICE, the DH and NHS England on this matter, and it's a message we will be taking directly to parliamentarians in a dedicated event this summer.

These are complimentary strategies. Commissioners are never going to recognise the need for funding without evidence. The users of our toolkit are already generating records on diagnosis and the treatment. The data colleagues have already pulled together will make a powerful case for funding.

*M. Armstrong,  
Chair, British Dental Association*

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## Electronic cigarettes

### Necrotic ulcer

Sir, we would like highlight an interesting case of a severe, necrotic looking oral ulcer attributed to the use of an electronic cigarette (e-cigarette).

A 72-year-old Caucasian male was referred by his GP as a two week wait referral to the oral and maxillofacial clinic. He had previously been smoking 20 cigarettes a day for 30 years before starting to use electronic cigarettes to



Fig. 1 Necrotic ulcer clearly visible in the mouth of a 72-year-old man

aid his smoking cessation. He gave a history of a painful area appearing after inhaling strongly on his e-cigarette and suffered extreme discomfort immediately afterwards.

On examination a 2 cm × 1 cm necrotic ulcer was clearly visible (Fig. 1). An incisional biopsy confirmed no evidence of malignancy and suggested the diagnosis of non-specific ulceration. The ulcer was managed conservatively and after a prolonged period of regular reviews the area eventually healed completely.

The e-cigarette device consists of a heating element and a container that holds the vapour solution. It vaporises the liquid solution into an aerosol mist that contains varying amounts of nicotine.<sup>1</sup> The role of the e-cigarette in smoking cessation is widely accepted and its usage is rapidly increasing worldwide.<sup>2</sup>

Despite the availability of research on the direct physiological effects of the e-cigarette, there is a paucity of data available on the physical effects and safety concerns of the e-cigarette on human health.<sup>1</sup> The potential for intra oral burns and injuries may present a challenge to the oral healthcare provider. Burns in particular, as in the above case, should be considered as a differential diagnosis of non-healing oral ulceration. Burns and explosions from e-cigarettes are thought to be under reported, although cases of fires and explosions of e-cigarette do exist in the literature.<sup>3-5</sup>

With the increasing use of the electronic cigarette worldwide, we aim to make healthcare professionals aware of the potential harm these items can cause. We also highlight the importance of including burn injuries in the differential diagnosis of soft tissue oral ulceration. Potential hazards and safety concerns associated with the e-cigarette requires further research.

*A. Cant, B. Collard, D. Cunliffe, Torbay and  
South Devon NHS Foundation Trust*

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## Drug interactions

### Time to put our pens down

Sir, given the recent tragic story where a patient was prescribed miconazole oral gel by her dentist whilst taking warfarin, and subsequently died, this has highlighted an important area for improvement.

Our medical GP colleagues have been using computer-based prescribing for many years now. Having worked as a part-time GP receptionist throughout my dental degree, I used such computer-based software regularly and noted its excellence in highlighting drug interactions before any prescription is issued. It also has the ability to flag up when medicines are being overused.

There are many advantages to adoption of this system in dental practice, particularly in terms of safer prescribing for patients, and also time efficiency so we could spend more time actually treating our patients. It should help prevent major drug interactions being overlooked in dental practice – such as in the case above. Given the time constraints of working within the NHS, computer-based prescribing would save on the time currently expended on hand written prescriptions and frantic searches through the BNF. Lastly, we could then advance one step further to adopt electronic prescribing methods, whereby prescriptions are sent electronically directly to pharmacies. This would be more efficient, prevent patients losing prescriptions, and reduce the potential for fraud.

*V. Wilson, Newcastle*

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## Erratum

### Updates on idarucizumab

*Letters Br Dent J* 2017; **222**: 140–141

In the original letter the authors' initials were incorrect. The correct author list for this letter reads as follows:

J. S. Chandan, T. Thomas & H. S. Baryah  
We apologise for this error and the inconvenience caused.

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