England and Wales, 7% of 15-year-olds had four teeth extracted, 6% had two teeth extracted and 2–3% had one tooth extracted.

In our previous paper,[1] we did note the problems with analysing trends due to changing methodologies in the surveys but that for 12- and 15-year-olds, the impact was likely to be minimal. It does therefore appear that the proportion of 15-year-olds who have had extractions for orthodontic treatment has decreased over the last ten years, despite a relatively constant number of 12-year-olds undergoing orthodontic treatment at the time of the survey (8-9%) and an increase in the number of 15-year-olds under treatment from 14% to 18%.[3,4]

*C. R. Vernazza, J. J. Murray, Newcastle*


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## Dental radiography

### Vanishing implant

Sir, having undergone successful treatment for a squamous cell carcinoma of the anterior mandible and lower lip, a patient was now ready for the restorative phase of treatment. The surgery left her edentulous in the lower jaw and in need of some form of prosthesis. She was given a number of options for her treatment and upon discussion with the team, decided to have an implant retained lower complete denture.

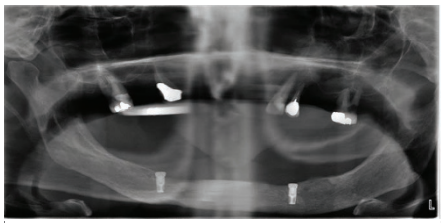

Fig. 1 Only two implant fixtures are seen

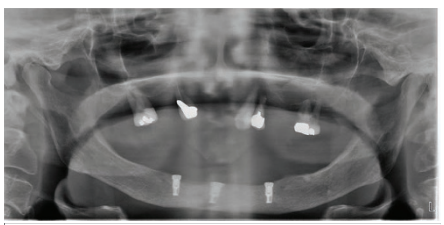

Fig. 2 The third implant magically reappears

Subsequently, she had three implant fixtures placed into her lower jaw under general anaesthetic and this was completed without complications. Having returned for a follow up appointment, a dental pantomogram (DPT) was taken to review the position of the implant fixtures (Fig. 1). The image shows the presence of only two implant fixtures, with the central fixture missing, which led to questions as to what had happened to it. The patient explained that she was completely oblivious to it all and had not noticed anything drop out of her mouth. One month later, she returned for a further follow up to review her implant fixtures, as well as her oral candidiasis. A new DPT was taken (Fig. 2) now with the middle implant fixture clearly visible!

This acts as a reminder of a number of key areas with regards to dental radiography. Firstly, ensuring the radiograph is taken appropriately, including the preparation of the patient and the machine and the appropriate positioning of the patient. Secondly, taking care when combining what is known clinically with what can be seen radiographically to form an overall impression. Finally, it raises the question as to whether periapical views should be taken in addition to DPTs in such instances.

(With thanks to Mr Neil Macmillan and Mr Nick Lewis.)

*Y. Twaij, by email*

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## Dental education

### Oral biology teaching

Sir, the recent spring meeting of the Association of Basic Science Teachers in Dentistry (ABSTD) brought together oral biology teachers including professors emeritus and heads of school, module leads and lecturers involved in front-line teaching, and was themed around a conversation on the current status of oral biology teaching. Despite a diversity of opinion, each speaker, independently and in their own distinctive way, raised two concerns. Firstly, the loss of scientific rigor in many contemporary oral biology courses and secondly, the lack of engagement and low levels of curiosity amongst students often associated with this topic area. The causes are complex, but may involve shortage of faculty with appropriate expertise, increased competition for teaching time, the eclipsing of basic sciences by clinical topics in contemporary, integrated curricula and inadequate guidance in documentation from regulatory bodies.

Basic science, and oral biology in particular, provide a foundation for clinical studies. If lost, much of the understanding which underpins dentistry will be damaged which will, in turn, impact on the ability of new graduates to deal with complex situations, to respond to change and technical advance, and ultimately on the quality of dental care. Therefore, we must extend this conversation to the whole profession and campaign for a reassessment of the scientific rigor of many dental courses to ensure that the dental degree continues to retain its status as a widely respected, scientifically based professional qualification.

*J. Bennett, President, Association of Basic Science Teachers in Dentistry, Plymouth*

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### Outreach teachers essential

Sir, the recent research paper by Parrot, Lee and Markless (*BDJ* 2017; **222:** 101–106) demonstrates yet again the need for, and special skills required to be, a clinical teacher in a dental outreach setting and the authors are to be congratulated on highlighting this issue.[1]

The essential requirement of being 'clinically competent' in a clinical teacher is clear to all parties. However, it is also clear from their paper that students think that a teacher's characteristic of being 'available, receptive and supportive' is of greater importance than the teachers themselves do.[1] Our own research at the University of Portsmouth Dental Academy (UPDA) indicates that students are empowered to be independent practitioners in an environment which treats them as colleagues to be supported, rather than simply recipients of the teachers' expertise.[2] The need for clinical teachers to be aware of the difference between the academic teaching of the dental school and the realities of primary care/outreach teaching should form an essential part of the training and preparation for their role in outreach education.

However, we have previously highlighted the logistical difficulties and financial costs of providing such preparation and training for part time clinical teachers in an outreach setting.[3,4] Part-time teachers frequently have other regular commitments, meaning not all teachers can attend on one training or induction day. The training then has to be repeated until all have attended. Time off from their teaching commitment for training involves the costs of providing staff cover. UPDA is exceptionally well supported by both its parent universities (University of

Portsmouth and King's College London) but often time for comprehensive induction including rotations in the mother school or even shadowing for a period of time are currently not realistic.

If clinical teaching is to be increasingly provided in outreach settings by part-time committed experienced practitioners, and is to be high quality and as effective as possible, then these issues need to be considered carefully by Directors of Dental Education.

*P. Hellyer, K. A. Jones, D. R. Radford, Portsmouth*


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## Dental research

### Trainee collaborations

Sir, Trainee research collaboratives are a novel way to carry out research at scale, harnessing the enthusiasm of trainee clinicians. The idea is simple: use trainees' exposure in practice to increase sample sizes for research purposes. Currently, numerous successful trainee research collaborations have been developed within medical specialties in the UK. The concept could be translated to dental research. Key advantages for trainees include development of research skills, and the ability to contribute to large, potentially impactful studies even when rotating through temporary posts.

Trainee research collaboratives (TRCs) are groups run primarily by trainees that undertake patient-based projects at scale.[1] These projects may be audits, observational studies or interventional studies such as randomised controlled trials.[2] While the concept of trainee research collaboratives has existed for decades, they have proved particularly popular in UK surgical specialties in the last seven years.[3] No trainee collaborative for dentistry exists.

TRCs would facilitate dental trainee involvement in large, impactful projects, overcoming barriers of short, rotational posts. Since dental trainees work throughout the country, there would be the opportunity to capture data at a regional or national level, increasing sample sizes for studies, ensuring that studies have adequate power. Data collection from multiple centres is also advantageous because of recruitment from heterogenous populations and practice settings.[4,5] Over time, we hope TRCs would develop to encompass dental core trainees in various fields of dentistry including specialities such as orthodontics where sample size is particularly problematic. TRCs would also give dentists the opportunity to develop research skills, acting as a stepping stone to further academic work.

*R. Budhdeo, T. Mirza, Luton*
*S. Budhdeo, Norwich/London*


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## Restorative dentistry

### Occlusal hypervigilance

Sir, a 50-year-old female was referred to our hospital department, following a six-month history of right-sided facial discomfort and complaining that her bite felt 'wrong', which had 'driven her crazy' and 'driven her to tears'. Her GDP had placed a ceramic crown on tooth 36 and adjusted it multiple times, with no improvement. Intraorally the ceramic crown appeared sound, had light occlusal contacts in intercuspal position and was not in occlusion on lateral excursions. After examination and appropriate investigations, a diagnosis was made of occlusal hypervigilance, which is an anxiety-related disorder. Sufferers have heightened attention to their occlusion and become 'exquisitely sensitive about the way their teeth meet'.[1] It is linked to a misbalance between perceptual cognitive processes such as catastrophising.[2]

Careful communication was key to managing the patient's expectations for whom a hard acrylic stabilisation splint was constructed and a referral made for the treatment of the cognitive, emotional and affective disorder components of the diagnosis.[3] Psychological approaches such as cognitive behavioural therapy or mindfulness may be appropriate in such cases.[2] The patient was very keen to have the crown adjusted, or an extraction, but we strongly advised against this as the repetition of occlusal adjustment or treatment can reinforce the patient's view that the occlusion is incorrect.[2,3]

How can we as dentists predictably provide the conformative approach as we are often taught not to regularly check the occlusion before a restoration, only afterwards?[4] It is extremely important to consider this small, but very specific cohort of patients who may encounter difficulties adapting to any changes, no matter how minor. It may be a consideration to complete an occlusal examination prior to embarking on restorative work to ensure a conformative restorative approach is achieved, which is often viewed as the safest approach to prevent any occlusal disharmony or problems.

*A. Carter, by email*


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### PTFE tape inspiration

Sir, I have read your recent article[1] with some interest, as you have referred to my original article on the subject in *Dental Update* (in the last century).[2]

PTFE has become a popular material used in dentistry and I am delighted that so many dentists have found uses, and in fact more applications, for this simple and cheap material.

I ought to share with you that I have invented nothing, and my mentor Dr Alan Leigh was my inspiration in this, and he is (at 87 years) still a remarkable mind, having graduated only second to the famous Maclean from Guy's.

Alan was never a self-promoter but a clever dentist who was always looking for better solutions and adapted well known engineering principles to achieve better dentistry.

It fell to students like me to write up and enlarge the concept with further applications, and that is just what I, and now you, have done.

*H. Stean, by email*


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