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Illegal practice of dentistry

Sir, it is well documented that tooth bleaching is safe and effective if a correct diagnosis is made. However, there are adverse effects of this dental treatment that can be avoided or minimised with appropriate knowledge. Having notified the GDC of beauty salons advertising and practising tooth bleaching I am told that they are unable to take any action unless a user makes a complaint. This is ludicrous when dentists are at risk of breaching the cosmetic safety regulations by whitening teeth. As dentists we have an ethical responsibility of 'putting patients' interests first and acting to protect them' as set out in the *Standards for dental professionals* by the GDC. This includes reporting of illegal dental practice. Surely the GDC should have the power to protect the general public from dental procedures provided by those working as 'therapists' in beauty salons? I would encourage colleagues to notify the GDC of any salon tooth bleaching so that they are aware of what I believe is an increasing problem that needs to be addressed.

R. S. Burrows
By email

Duncan Rudkin, GDC Chief Executive and Registrar, responds: Tooth whitening can be dangerous, particularly in the hands of unqualified individuals. In the General Dental Council's view, for patient protection, tooth whitening should only be carried out by dentists who are trained and competent in such treatments. We consider it to be illegal practice if somebody who is not a registered dental professional performs tooth whitening. If we receive information that this might be happening, we actively investigate by contacting the company concerned to find out the nature and extent of any tooth whitening procedures being offered. We will take the appropriate action to ensure patients are properly protected. In some cases this means prosecuting somebody for illegal practice.

We are just as concerned to ensure that patients are not put at risk by GDC registrants who may be carrying out

tooth whitening when they do not have the appropriate training or competence. It is the Council's position that only dentists (as opposed to dental care professionals such as dental nurses) are suitably trained and competent to carry out tooth whitening. Any registrant who undertakes work for which they are not sufficiently competent risks investigation under our fitness to practise procedures and could lose their registration.

BDJ readers can support us in protecting the public by alerting us to any concerns they may have about individual companies offering tooth whitening, but also by helping us raise public awareness of these issues.

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Confusing ratios

Sir, I feel that the discussion on ratios for paediatric basic life support were somewhat confusing in the otherwise useful paper *Adult and paediatric life support* (BDJ 2007; 202: 209-212). I should like to draw your attention to the UK Resuscitation Council Guidelines on Paediatric Basic Life Support (2005).

In the explanatory notes, the following comment is made:

Although the CoSTR recommendation is based on the number of rescuers present, it would certainly negate the main benefit of simplicity if lay rescuers were taught a different ratio for use if there were two of them. Similarly, those with a duty to respond, who would normally be taught to use a ratio of 15:2, should not be compelled to use the 30:2 ratio if they are alone, unless they are not achieving an adequate number of compressions because of difficulty in the transition between ventilation and compression.

This would suggest that 15:2 is generally used for children by trained individuals. If difficulty is experienced in transition the adult ratio of 30:2 should be used. To add to the potential confusion, Figure 6 of the article in the journal shows a ratio of 15:1 for two resuscitators [sic].

R. Moore
Liverpool

The leading author of the article, Daljit Gill, responds: The authors would like to thank Dr Moore for his interest and for pointing out the typographical error.

The ratio of 30:2 compression:ventilations is the recommended ratio to teach to lay people when teaching paediatric basic life support as it does not differ from adult ratios. This avoids unnecessary confusion in an already stressful situation. However, ILCOR clearly recommends that people with a 'duty to respond' – ie healthcare professionals should be taught two differing ratios dependent on how many rescuers are present. This may mean learning extra information but the ratio is based on evidence from animal studies and therefore is preferred in the resuscitation of children.

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Invalid methods

Sir, the paper by Humphris *et al.*¹ has some excellent examples of how to report statistical data. They include a confidence interval of the difference in state anxiety scores between those given the Modified Dental Anxiety Scale and a control group. This confidence interval crosses zero but does not include the pre-specified value for an important effect of one unit, and so they can legitimately claim that being given the Scale does not increase anxiety.

However, if one looks closely at the methods, one discovers that patients were randomised, not individually, but by whole sessions (to avoid 'contamination'). This design is known as a cluster randomised trial. While this is a good research design to avoid contamination, sadly it means that methods that ignore this aspect of the design, such as the t-test described by the authors, are invalid.² In practice it is most likely that the reported p-values will be too small, so the conclusion of non-significance still holds. However, the true confidence intervals are likely to be wider than those reported, and so may possibly include the effect size of one unit.

Cluster trials are increasingly being used in dental research. A recent paper found seven out of 43 (16%) trials in

dentistry were cluster designs.³ It is important to be aware that they require rather more sophisticated methods of analysis, which are not readily available in some of the more commonly used statistical packages yet.

M. Campbell
Professor of Medical Statistics
By email

1. Humphris G M, Clarke H M M, Greeman R. Does completing a dental anxiety questionnaire increase anxiety? A randomised controlled trial with adults in general dental practice. *Br Dent J* 2006; **201**: 33-35.
2. Campbell M J. Cluster randomized trials in general (family) practice research. *Statistical Methods in Medical Research* 2000; **9**: 81-94.
3. Crawford F. Clinical trials in dental primary care: what research methods have been used to produce reliable evidence? *Br Dent J* 2005; **199**: 155-160.

The authors respond: We are grateful to Professor Campbell for alerting us to the necessity of adopting statistical approaches that control for clustering. She is correct in identifying that our randomisation procedure was by session rather than by individual patient. Expediency dictated that we randomise by session to limit the disruption in the waiting room where data collection took place. In order to investigate for the possible influence of clustering on our reported results we adjusted our outcome variable by the 'design effect' (ICCs) as recommended by Campbell (2000) in her letter. We used ICCs that ranged from 0.05 to 0.01. Our results demonstrated that the z values range from 1.048 to 0.689 - that is, lower than the effect we reported of 1.275 (as correctly predicted by Professor Campbell). The confidence interval, however, may include a one unit difference in the MDAS although readers should be aware that this may be border-line. It is also worth stating that we adopted a small effect size 0.22 in our study thereby providing a limited threshold for the intervention to reach. In summary, we support the call for dental researchers to attend to issues that minimise bias in their findings; however we feel that the balance of evidence from our reported study swings towards the minimal effect of using formal dental anxiety questioning on state anxiety levels in patients attending their dentist.
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Historical technicalities

Sir, J. J. Murray has provided us with a very interesting history of the Council of the Heads and Deans of Dental Schools (*BDJ* 2007; **202**: 331-334). However, he makes one statement which I feel is misleading. He states that in the immediate post-war years, 'The principle of training hygienists was endorsed, and

support offered for the necessary legislation to implement training schemes in dental schools'. While this may be technically accurate, it is only in the last few years that dental schools have actually taken on this responsibility.

Until very recently, the training of dental hygienists in the UK has been undertaken largely in dental hospitals and the armed forces. Directors of the civilian schools were mostly appointed with NHS contracts and were responsible only to the GDC for the standards of education they provided. The universities and dental schools were not officially involved. Indeed, there were strict rules that the facilities provided for the training of dental hygienists must not be at the expense of those for dental undergraduate teaching and, in the 1970s and 1980s, some Deans offered little cooperation to Directors of hygiene schools. For example, in the late 1970s, the newly appointed Director of one hygiene school had to use his clinical surgery for all administrative purposes connected with his school, because the Dean denied access to the only vacant accommodation on the grounds that it was leased to the university (from the hospital). In another school of dental hygiene, in the 1980s, the Dean denied the use of a small number of dental chairs in a single department for the use of dental hygiene students and the Director had to distribute his students throughout the dental hospital, wherever he could find chairs not being used by undergraduates. Having said that, some Deans have cooperated very well with their NHS colleagues in the provision of facilities even when not part of their responsibilities.

Recently, the GDC has ceased to be the examining body for dental hygienists. That role has now passed to the Royal Colleges and the universities. In most instances, contracts for the education of dental hygienists have been given to universities and combined with dental therapy courses. Personally, I believe that it is a mistake not to train for the role of hygienist-only, but that is another matter. Now that these new arrangements are in force, it is to be hoped that conflicts such as those mentioned above are of historical interest only.

D. G. Hillam
Tetbury

Professor Murray responds: This information was a direct quote from B. C. Leighton's article in the BDJ: The Dental Education Advisory Council: 50 years (BDJ 1980; 149: 267-268). The sentence Dr Hillam refers to is on page 268, first column, approximately halfway down. It

might be helpful to provide the full quote: 'As one method by which the dental manpower shortage might be alleviated, the Royal Air Force had inaugurated an experiment in 1941 of training dental hygienists. After members had paid a visit to the training centre at RAF Halton, a sub-committee was set up to consider what was at that time a revolutionary scheme. The report of the sub-committee was favourable, the principle of training hygienists for civilian life endorsed, and support offered for the necessary legislation and arrangements to implement training schemes in dental schools.'
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A divisive boat

Sir, Professor Nairn Wilson in his excellent guest editorial *Science in dental education (BDJ 2007; 202: 297)* does not go far enough.

To make any real inroads into even going some way to delivering a dental education programme that would lead to a service for the population that would provide quality assured oral healthcare, the mouth needs to be put back into the body as a matter of urgency. There are certainly significant manpower and training issues here. While oral healthcare and dentistry are indisputably a medical speciality with their own sub-specialties, those responsible for delivering this care are trained as an *entirely separate profession* which seems at best illogical. It's not really part of mainstream healthcare, but some sort of indefinable add-on? A ludicrous thesis. Maybe John Tomes and the 'separatists' of history have a lot to answer for.

Currently dentists are trained in parallel with and alongside medics in human disease, the medical skills of surgery, prescribing, injecting drugs, the spectrum of diagnosis and generally dealing with, and accepting responsibility for, patients on a whole person basis and all that this involves. These skills will be needed often against a background of polypharmacy, varying degrees of wellness and illness for patients, through the very young to the geriatric and frail. Mistakes are known to have a significant effect. Holistic or not?

As time goes on (or perhaps even already!) it will make just about as much sense if we had decided to train a totally separate profession of say obstetricians, radiologists, dermatologists, proctologists etc etc through the medium of a different training programme as we inexplicably do with dentists. Not really a medical doctor/surgeon, but expected to behave exactly like one, and be a sort of specialist. This

will inevitably change sooner or later to structure the correct emphasis on greater numbers of appropriately trained therapists (at last!) who will deliver the diminishing restorative care and who will form the bulk of the team under the overarching diagnostic and team leading role of the dentist.

The advances in the biosciences, which are moving at a staggering rate, have resulted in enormous leaps of understanding with regard to cellular biology, diagnosis, and the prevention and treatment of disease. How far into the future will we continue to row such a divisive boat?

K. F. Marshall

By email

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A mix of appointments

Sir, I read the editorial by Hew Mathewson, current President of the GDC (*BDJ* 2007: 202: 297). On the one hand, Hew Mathewson said the GDC protects patients from charlatans pretending to be dentists. On the other hand, he says the GDC regulate dentists to protect patients. Which one is it? It's obvious that the GDC can prosecute its registrants such as dentists, but are almost powerless to prosecute those that are not qualified dentists, but practise some form of dentistry to the detriment of patients/customers.

I do agree with Hew Mathewson that the GDC should represent the diversity of its registrants. However, I think wholly appointing GDC members should not be the way forward. Since membership will be a mixture of lay people and dentists, perhaps appointing lay people and electing dentists should be the preferred approach. Therefore, the mix of GDC membership should be created by a mix of appointments and elections.

S. Shah

London

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Tantamount to sacrosanct

Sir, the editorial by Hew Mathewson, the GDC President (*BDJ* 2007: 202: 297) contains the suggestion that he would prefer to have a General Dental Council that did not have another dentist as a member. He seems to believe that his opinion about a fellow dentist's professional behaviour and/or work should be tantamount to sacrosanct.

He has chosen to ignore the fact that it is the dental profession who finance the GDC to the sum of £420 per annum. Dentists both deserve and need effective and balanced representation. This is good for us and our patients. I have

recently protested to the council that a pensioner choosing to work a few hours per week in order to keep their long-standing patients cared for should not have to pay the same charges as full time dentists. In contrast the General Medical Council actually allows doctors over the age of 65 to be exempt from all charges. A similar argument could be made for other dentists with very good reasons to practise far less than full time.

So far we have had no joy. There does not appear to be enough practising dentists on the council to enable a real and useful understanding of the difficulties our dental colleagues face every working day. If more dentists could work post retirement or maintain a career while juggling the demands of family say, then we would all be better off. Surely the GDC should want this.

G. M. Feingold

Manchester

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Balance required

Sir, I would like to reply to Dr Hughes' comments regarding the possible association between periodontal disease and systemic disease (*BDJ* 2007; 202: 301). Dr Hughes suggests that Dr Watts' abstracts act as a nice balance against the 'recent' reports in the news section. This would seem to be a classic case of 'getting your retaliation in first'. I read the *Journal of Clinical Periodontology* and the *Journal of Periodontology* monthly and there are a number of papers each month of possible periodontal/systemic interactions. On average these papers are split 50/50, however you would not know this if you were to read Dr Watts' abstracts as he only seems to abstract the papers that show no association. Dr Hughes is correct that a balance is required but I feel that in this case the situation is not as he sees it.

J. Ahearne

Poole

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Tail wagging the dog

Sir, Nigel Fox comments that some orthodontic clinicians are incorrectly using the Aesthetic Component (AC) of the Index of Orthodontic Treatment Need (IOTN), by having the patients rather than the clinician select which AC photograph most accurately matches their orthodontic aesthetic self-perceptions of the appearance of their teeth.¹ However, for those who have not been on the calibration course the IOTN booklet guidelines state that 'The patient should be asked: "Here is a set of 10 photographs showing a range of dental attractiveness.

Number 1 is the most, and number 10 the least attractive. Where would you put your teeth on this scale?"²

Perhaps the patient is best placed to answer this question but research shows that 11-12-year-olds have great difficulty choosing a picture which most accurately represents a similar level of their aesthetic concern.³⁻⁵ Self evaluation improves with age⁶ but may be too late for decisions regarding orthodontic treatment starting in the late mixed dentition. In addition, young patients also tend to consistently under-score when self selecting³⁻⁵ in contrast to professionals' over-emphasis because of the 'ugly-duckling stage', features which disappear later without any intervention.⁷

This is directly relevant as small changes in the scores over time may alter the inclusion or exclusion of those individuals whose scores fall near the thresholds.⁷ Since April 2006, access to NHS treatment for cases whose IOTN Dental Health Component is 3 and whose AC is less than 6 has been restricted. To be equitable, therefore, professionals scoring this component should be formally calibrated. Attention could be better directed towards developing a contemporary dental aesthetic index from which patients can make an accurate selection to represent their level of perceived disadvantage, no matter what their age. Subsequently, which cut-off points are used and who should determine them is a separate issue,⁸ since teenagers⁹ and young adults¹⁰ select low aesthetic scores as the threshold level above which treatment is desirable (eg IOTN AC 4). This is in contrast to a professional panel of 74 UK dentists whose judgements were that an AC score of 1-4 indicated little if any need for treatment, 5-7 a moderate need, and 8-10 a great need.¹¹

That the NHS has chosen the mid score (score AC 6) as its cut-off point is perhaps not surprising as correction of a malocclusion involves lengthy treatment with substantial costs. With limited resources the more stringent the criteria the more limitation there is on the consumption.¹²

R. A. C. Chate
Colchester

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Trained circus animals

Sir, nobody could disagree with Nairn Wilson's plea to ensure that future dental professionals receive an education suitable not just to today's world but in preparation for the challenges of the future (*BDJ* 2007; **202**: 97).

However, in addressing the future of university-level education, we need to acknowledge that the UK has huge problems in its schools system, which risk cutting off the supply of youngsters with a sufficient foundation to pursue a career in a rapidly-moving medical discipline.

A quarter of secondary schools have no qualified physics teacher, three quarters of schools are cancelling basic practical lessons (largely because of poor behaviour that puts safety at risk), fewer people are taking A-level biology than was the case a decade ago, and the country is short of about 3,000 mathematics teachers. Science teachers report a desperate need for subject-specific professional development to keep abreast of changes in their disciplines. The assessment system promotes a culture in which children repeat the same experiment over and over again until they can perform it like trained circus animals, rather than experiencing real learning through a variety of experiences.

Until this crisis is properly addressed, with ambitious targets for recruiting enough highly-trained teachers that specialise in the core disciplines of biology, chemistry, physics and mathematics, our ability to provide the right recruits for a cutting edge university

education in scientific disciplines like dentistry will be compromised.

P. Cotgreave

London

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Just a mouth ulcer?

Sir, the article on mouth ulcers (*BDJ* 2007; **202**: E16) showed that the public mainly seeks advice for mouth ulcers from general medical practitioners, followed by pharmaceutical and dental practitioners. Most of the time mouth ulcers are considered to be simply recurring aphthous ulcers. However, among different types of ulcers occurring in the mouth recurrent aphthous ulcer (RAU) is the second most common one.

About 20% of the population is affected by RAU. The age groups affected range from childhood to middle age.

An increase in the educational level, personal and work-related stressors has shown a resultant rise in the incidence of RAU. Commonly aphthae are self-limiting and require no extensive treatment, but in certain cases RAU may be associated with underlying disorders that include haematological, connective tissue conditions and immunological disorders. A large amount of laboratory and clinical evidence suggests that there is a defined temporal sequence of cellular changes within the lesion as it progresses through the varying stages of ulceration. Clinically it tends to follow a set course. The public seeks advice from medical/dental practitioners if associated with functional morbidity and restriction. Minor aphthae heal without scarring unlike the major aphthae that are more painful and heal with scar formation. This scar can be a site for cicatrix formation, so a thorough investigation is required for management of RAU.

For a patient visiting a medical/dental practitioner with the complaint of ulcers in the mouth, adequate consultation and review time should be given. Practitioners should follow a series of diagnostic processes along with a detailed history. Complete work-up of a patient with mouth ulcers is important even though only a few may show a specific underlying cause. Successful management of RAU should include all of the three treatments: (1) symptomatic and supportive, (2) specific and (3) preventive. This requires a significant update of clinicians' knowledge regarding RAU and acceptance that RAU can be treated. The approach should be specific and not 'try-it-and-see'.

S. Vidya

Bangalore

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