

Letters to the Editor

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BOUNTIFUL DATA

Sir, we write to express support for the views of Dr Larah in his letter (*BDJ* 2012; 213: 49). He states that, as part of the consent process, he would like to be able to quote accurate success rates for the various restorative dental procedures that general dental practitioners carry out daily and suggested that prior to 2006, the Business Services Authority (BSA), previously the Dental Practice Board (DPB), held meaningful data. Such data are indeed available!

In 1991 a suitable dataset was established (of which we were fortunate enough to be part of the working group) at the DPB. A sample of the data was subjected, after ten years, to modified Kaplan Meier survival analysis,¹ showing the survival of the 'humble' occlusal amalgam (57%)² to the survival rates before re-intervention of crowns (68% for metal crowns, 62% for metal-ceramic and 48% for all-ceramic),³ veneers (53%),⁴ and most recently, bridges (similar survival to crowns).⁵

A previous publication summarises our work on directly placed restorations,⁶ in which several common themes emerged including that restoration age at re-intervention decreased with increasing age of the patient,⁷ and that in the GDS, patients with high frequency of attendance and higher mean gross spend on treatment *per annum* have restorations which survive less well.^{4,7} It therefore follows that, for this group of high treatment need (which could be considered a proxy for high caries activity) patients, the restorations represent poorer value for money, for patients who pay charges or for the taxpayer for patients whose charges are remitted. Further, common throughout

the analyses was that patients who changed dentist received restorations which did not survive as long as those placed for patients who did not change dentist. This may be considered to occur, perhaps, because dentists tend to judge their own restorations more kindly than those of other dentists.

We agree that these data can be useful when obtaining consent, but we also consider that the data could inform Government on treatments which are appropriate use of taxpayers' money. In this regard, we are excited to advertise the establishment of a new database. The BSA has now deposited an anonymised large longitudinal sample of its data with the Economic and Social Data Service, soon to become part of the UK Data Service. This sample contains the dental treatment details of over a million patients tracked over the period October 1990-March 2006. This dataset is now freely available to all researchers, and indeed the first piece of work from this new dataset, *Factors associated with patients changing dentist* was seen at the Helsinki IADR PER meeting in September 2012.

F. J. T. Burke, S. Lucarotti, by email

1. Lucarotti P S K, Burke F J T. Analysis of an administrative database of indirect restorations over 11 years. *J Dent* 2009; **37**: 4-11.
2. Lucarotti P S K, Holder R L, Burke F J T. Outcome of direct restorations placed within the general dental services in England and Wales (Part 1): variation by type of restoration and re-intervention. *J Dent* 2005; **33**: 805-815.
3. Burke F J T, Lucarotti P S K. Ten-year outcome of crowns placed within the General Dental Services in England and Wales. *J Dent* 2009; **37**: 12-24.
4. Burke F J T, Lucarotti P S K. Ten-year outcome of porcelain laminate veneers placed within the General Dental Services in England and Wales. *J Dent* 2009; **37**: 31-38.
5. Burke F J T, Lucarotti P S K. Ten-year outcome of bridges placed within the General Dental Services in England and Wales. *J Dent* 2012; **40**: 886-895.
6. Burke F J T, Lucarotti P S K. How long do direct restorations placed within the General Dental

Services in England and Wales survive? *Br Dent J* 2009; **206**: E2.

7. Burke F J T, Lucarotti P S K, Holder R L. Outcome of direct restorations placed within the general dental services in England and Wales (Part 2): variation by patients' characteristics. *J Dent* 2005; **33**: 817-826.

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HELPING FAMILIES ACCESS CARE

Sir, I have read with great interest the opinion article *Child dental neglect: is it a neglected area in the UK?* (*BDJ* 2012; 213: 103-104) and the subsequent letter *Taking prevention to the child* (*BDJ* 2012; 213: 376). Both highlight the challenges involved with the diagnosis and treatment of child dental neglect. While I do agree that community fluoride varnishing schemes are very effective and that school based intervention programmes also have a place, they do not reach all of these vulnerable children. Some of the most vulnerable children in society are those from families who refuse to engage with all services whether those are health services, social services or education. For example, in school or nursery based intervention or screening programmes, the children may have poor attendance rates and not be present on the screening or intervention day. How can we as dentists then help these children to access dental services?

One model that has been effective is that recently set up in NHS Greater Glasgow and Clyde. In this model children with welfare concerns are referred to the child protection unit based at the Royal Hospital for Sick Children in Glasgow and can be appointed for a comprehensive medical assessment. This assessment includes a comprehensive oral assessment by a dentist. The assessments normally take place in a local health centre or child development

centre. When children attend they are accompanied by a parent/carer and also a social worker. In this way we are able to ensure multi-disciplinary working. The dental appendix to the medical report can also highlight the oral needs of the children to their health visitor (for the under fives) and many of the health visitors will have a dental health support worker as part of their team who can support families to access the care. Importantly this has also raised the profile of oral health with both our medical colleagues and colleagues in social services who are now more aware of the important input dentistry can have to the overall assessment of children's welfare, especially in this most vulnerable group.

C. Harris, A. Cairns, R. Welbury
Glasgow
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TWO SMALL PUNCTURE WOUNDS

Sir, we would like to bring to the attention of the reader two unusual cases which we have recently seen.

Both patients were referred to us following routine scaling of lower teeth using an ultrasonic scaler and high volume suction, in dental practices. Both described similar accounts of a sudden pain in the floor of the mouth followed by the sensation that tissue was sucked into the aspirator tip for a number of seconds. Immediate swelling of the floor of the mouth and neck was experienced by both of these patients. Treatment was ceased immediately and the patients were referred on an urgent basis. Crepitus, as the characteristic finding of subcutaneous air, was evident in the anterior triangles of the patients' necks bilaterally. Further examination showed that two small puncture wounds were noted in the floor of the mouth of each patient. These patients were fortunate not to require any surgical airway intervention but were treated with prophylactic antibiotics and admitted to hospital for a period of observation. The surgical emphysema resolved spontaneously over some days.

We hypothesise that the puncture wounds made inadvertently by the ultrasonic scaling tip acted as a flap-type valve. Air was drawn into the floor

of the mouth when tissue was sucked in to the aspirator tip with subsequent spread of air into the neck along normal anatomical tissue planes.

Surgical emphysema can be a complication of a number of dental and maxillofacial procedures. The exhaust of an air rotor drill can sometimes inject a small volume of air into submucosal or subcutaneous tissues. Defects of the anterior wall of the maxillary sinus can predispose to surgical emphysema if patients blow their nose against resistance. This increases the intra-antral pressure and air can escape into the soft tissues. These include patients who have recently had maxillary osteotomies, patients with zygomatic fractures, and also individuals who have oro-antral fistulae closed surgically.

We feel that practitioners should be aware of this unusual complication that can arise during a routine and very commonly performed procedure.

C. J. Sweet, G. C. S. Cousin
Blackburn
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NEW TWIST TO AN OLD STORY

Sir, I read with some amusement and interest the article by Jeavons on 'familiar forceps'.¹ Doubtlessly, down through time, both dentists and patients alike have sought and prayed for that 'painless and easy' extraction. In order to make in particular those molar and premolar extractions easy (easier), I have found empirically that rotation movements greatly assist. Standard forceps are placed on a multirooted tooth, after application of straight elevator to the buccal and lingual – be it a molar or premolar – care being taken to grasp as far apically with the forceps as possible. Then, firm steady clockwise rotational force is applied until strong resistance is felt. Pause against the resistance and relax the grip. Then redo this manipulation two to three times in the same clockwise fashion. Release the forceps and re-apply and perform this manipulation several times anticlockwise. Again release and proceed clockwise in such a fashion. By this stage the tooth will be found to be relatively loose in its socket. Standard elevation can now be attempted to deliver the offending

structure! This procedure fractures periodontal ligament fibres and aids socket dilation of the most reluctant of teeth. I personally find it much less of an effort than standard figure of eight and socket dilation via compression and tensional forces. The patient too doubtlessly appreciates the simpler approach with the only caveat being that for lower teeth good jaw support with the opposing hand is required – but this is not entirely different from a standard protocol extraction.

Quinn² has demonstrated that rotational movements are indeed workable for a multirooted tooth contrary to the general dogma of not using rotational forces in teeth with more than one root. Rotation can be demonstrated to be effective with a low incidence of alveolar and root fractures. Quinn uses the rotational approach with cow horn forceps into the bifurcation area. One caveat is that the roots must be relatively straight. Although this author does not advise this approach with finer multirooted maxillary teeth I personally find that the rotational method works well with upper as well as lower multirooted teeth.

From a theoretical viewpoint, the periodontal ligament can be modelled as an anisotropic, viscoelastic material.³ In other words, shows directional dependence in terms of stress and strain and has elements of elastic recovery and flow deformation. I would add that the periodontal ligament fibres can be perhaps also likened to a series of springs and thus could be mimicked by Hooke's spring laws. For those seeking the more technical engineering application, finite element analysis has been adequately outlined in regards translational orthodontic tooth movements.⁴ Ultimately, engineering modelling for dental extraction also has the potential to greatly support the clinician involved in this procedure daily.

Whatever the model or theory applied, perhaps the periodontal ligament and socket can be simply viewed as weaker under rotational shear and torsional forces than compression or tension. From first principles it can be appreciated that chewing forces would place less torsional load on teeth compared to compression or tension. Nonetheless, for my clinical colleagues I would without hesitation