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## At risk individuals

Sir, we read with interest the article by McLeod *et al.*<sup>1</sup> on delays in the diagnosis of oral cancer.

An assumption of the paper is that reducing diagnostic delays will reduce tumour stage at diagnosis. The current literature indicates there is no significant association between duration of diagnostic delay and stage of oral cancer at diagnosis, suggesting advanced stage disease is not always a consequence of delayed diagnosis (delay being defined as the period from the onset of symptoms to receipt of a definitive diagnosis).

We have investigated this relationship in a consecutive cohort of patients ( $n = 250$ ) presenting to Guy's Hospital Head and Neck Service, with squamous cell carcinoma of the oral cavity.<sup>2</sup> Although just over half the cohort followed the logical delay-stage relationship (29% had no delay and early stage disease, while 24% had a long delay and had advanced stage disease), 27% paradoxically had no delay yet had advanced stage disease and 20% had a prolonged diagnostic delay yet had early stage disease. It is suggested the paradox is due to different rates of tumour growth.<sup>3</sup> However the time durations involved are simply not long enough for a squamous cell carcinoma to develop from an early lesion into late stage disease.

A more plausible explanation (but one which has received relatively little attention) is that some oral cancers may be silent (asymptomatic) until late in the disease period.<sup>3</sup> Conversely, alert individuals may identify the visual signs or symptoms of oral cancer when it is ore-neoplastic or early stage disease. As the pre-neoplastic phase can extend over a long period of time,<sup>4</sup> prolonged diagnostic delay can accompany early stage disease at diagnosis.

Given that for 27% of patients, advanced stage disease is not a consequence of delayed diagnosis, it is

important that factors predisposing to advanced stage are identified. Our data indicate that being female, white and married is predictive of early stage disease, while being non-white, male and single is predictive of advanced stage disease. Thus, public education might best be targeted towards both 'at risk' individuals (ie heavy smokers and those who have a high intake of alcohol) and those more likely to present with advanced stage disease – those who are male, without partners and non-white. Such interventions should be aimed at self-examination and regular dental attendance as a form of screening for early oral lesions.

Patients were considered to have experienced prolonged diagnostic delay when diagnostic delay exceeded three months (median value).

**S. Scott**

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1. McLeod N M H, Saeed N R, Ali E A. Oral Cancer: Delays in referral and diagnosis persist. *Br Dent J* 2005; **198**: 681–684.
2. Scott S E, Grunfeld E A, McGurk M. The idiosyncratic relationship between diagnostic delay and stage of oral squamous cell carcinoma. *Oral Oncol* 2005; **41**: 396–403.
3. Guggenheimer J, Verbin R S, Johnson J T et al. Factors delaying the diagnosis of oral and oropharyngeal carcinomas. *Cancer* 1989; **64**: 932–935.
4. Wildt J, Bundgaard T, Bentzen S M. Delay in the diagnosis of oral squamous cell carcinoma. *Clin Otolaryngol* 1995; **20**: 21–25.

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## Grapefruit guidance

Sir, I read *Grapefruit consumption improves vitamin C status in periodontitis patients* (*BDJ* 2005; **199**: 213–217) with interest; it is refreshing to see a holistic approach being taken in research topics. However, before we all recommend our patients consume vast quantities of grapefruit in the fight against periodontal disease, a word of warning. There are some well documented interactions of certain drugs with grapefruit juice in particular.<sup>1</sup>

Grapefruit juice appears to selectively inhibit the CYP3A4 enzyme system found in the liver and in enterocytes in the small intestine, which can increase the bioavailability of a drug. This inhibition can last for up to 24 hours with a maximal effect when the juice is taken with the drug or up to four hours.

Interactions have been found between grapefruit juice and some of the drugs in the following categories: antihypertensive drugs, 'statins' used to reduce blood cholesterol, immunosuppressant drugs, protease inhibitors used to treat HIV/AIDS, some anxiolytics and antihistamine medications.<sup>2</sup>

It would therefore be prudent for the patient to obtain advice from the prescribing medical practitioner.

**G. Rhidian**

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1. Bailey D G, Malcolm J, Arnold O, Spence J D. Grapefruit juice-drug interactions (review). *Br J Clin Pharmacol* 1998; **46**: 101–110.
2. Drug interactions with grapefruit juice. *WHO Drug Information* 1997; **11**: 70–71.

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## Ivory tower derision

Sir, with reference to GDPs' views on stainless steel crowns (*BDJ* 2005; **199**: 453–455), it is such a relief to have, at last, a paper that gives the GDP's point of view. It is easy for those academics in their ivory towers to deride us and our multiple shortcomings.

I find these Adult Dental Health Surveys particularly upsetting in the way they highlight findings such as 'regular attendees have fewer sound teeth than irregular attendees' or 'regular attendees suffer more dental abscesses than irregular attendees', or the fact that there is no difference in periodontal health between regular and irregular attendees.

We seldom use rubber dam, we do not survey casts or design partial dentures ourselves and we do not often use semi-adjustable articulators when carrying out

crown and bridge work. Our impressions are, apparently, of poor quality.

All this time I have thought that perhaps we should try and do better, to set our sights as high as the specialists do. Now I have read the articles by Milsom, Tickle *et al.*, I realise that it should really be the other way round. If we do not use stainless steel crowns, it means that they should not be used and the specialists are wrong. What a relief!

Does this mean I can stop using those awkward and uncomfortable matrix bands now? And wedges. And gingival retraction cord!

**N. Cole**

By email

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## Cysts: liquid content

Sir, in the paper presented by Motamedi and Talesh (*BDJ* 2005; 198: 203-206), about handling large dentigerous cysts, the authors say that the fluid content was helpful for establishing the diagnosis of cyst instead of an odontogenic tumour. We would like to remember that ameloblastomas can also present a fluid similar to cysts, including solid variants. In Brazil, ultrasonography is performed for evaluating the content of intra-osseous maxillo-mandibular lesions, helping the differential diagnosis between odontogenic keratocyst and solid or cystic ameloblastomas. In the case of cystic ameloblastomas, this procedure is crucial for determining the area of an incisional biopsy, because part of the tumoral wall presents an epithelial lining very similar to dentigerous cysts, which can lead to a misdiagnosis, if the biopsy is performed in a non-representative area.

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## A popular misconception

Sir, we refer to a paper published in the 23 July issue of the *British Dental Journal* by Santiago *et al.*, entitled *Microhardness of dentine underlying ART restorations in primary molars: an in vivo pilot study*.<sup>1</sup>

While the authors are to be congratulated on an excellent and pertinent piece of research supporting minimally invasive restorative treatment, we are concerned about a prominent statement made in the paper: 'There are few studies on the influence of ionomeric material on tooth structure, especially carious dentine, left under the restorations as recommended in ART.' Regrettably this statement concerning the recommendation that carious dentine

is left under a restoration with the ART approach is not only incorrect but reinforces a popular misconception held by many about the approach. The problem stems in part from recent changes in terminology used to describe the carious process as we shall describe.

In Fusiya's original work<sup>2</sup> two zones of the carious process in dentine were identified namely an outer soft zone with bacterial invasion, which is unmineralisable, and an inner harder zone with minimal bacterial invasion and which is remineralisable. These two 'conceptual' zones he named 'outer carious dentine' and 'inner carious dentine' respectively. The ART approach which uses hand excavation aims to remove all soft infected dentine, leaving behind hard remineralisable dentine. In real terms the depth of the cavity where the hand excavation ends depends upon many factors including sharpness of the excavator, force used and operator factors.

Relatively recently and in response to a better understanding of the carious process, 'outer carious dentine' has been renamed the 'infected layer' while 'inner carious dentine' has been renamed 'affected dentine'.<sup>3</sup> Thus, with the ART approach, the 'infected layer' is removed and some of the 'affected dentine' might be retained. This does not however constitute recommendations that carious dentine is left behind, even though the evidence base supporting the need to remove carious dentine before placing a restoration remains equivocal.<sup>4</sup>

Lastly, while there has been some delay in this paper coming to press, it is a shame that the authors did not refer to a similar study by their fellow country persons that collaborate their findings.<sup>5</sup>

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1. Santiago B M, Ventin D A, Primo L G, Barcelo R. Microhardness of dentine underlying ART restorations in primary molars: an in vivo pilot study. *Br Dent J* 2005; **199**: 103-106.
2. Fusiya T. *A simple pain-free adhesive restorative system by minimal reduction and total etching*. Tokyo: Ishiyaku EuroAmerica Inc, 1993.
3. Mount G J, Ngo H. Minimal intervention: A new concept for operative dentistry. *Quint Int* 2000; **31**: 527-533.
4. Kidd E A M. How 'clean' must a cavity be before restoration? *Caries Res* 2004; **38**: 305-313.
5. Massara M L A, Alves J B, Brandão P R G. Atraumatic Restorative Treatment: Clinical, ultrastructural and chemical analysis. *Caries Res* 2002; **36**: 430-436.

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