

experience, interactions with each other and with opinion leaders.⁵ Foundation dentists are at a crucial point in the development of their own mindlines and training in an environment which supports use of published clinical guidelines during their first year in clinical practice is essential.

This audit shows that more work is required to ensure the foundation training environment is appropriate in relation to antibiotic use. To address this, we suggest that each foundation trainer should task his/her foundation dentist(s) with leading a practice-wide annual clinical audit of antibiotic prescribing. An online dental antimicrobial stewardship toolkit is available to assist with this and can be accessed via the British Dental Association, FGDP(UK) and Public Health England websites.⁶

A. Ihimekpen, W. Thompson, by email

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DOI: 10.1038/sj.bdj.2018.554

Restorative dentistry

Cronlays?

Sir, an Education article by Virdee *et al.* recently published in the *BDJ* was interesting in that it recalled to me a story told by Professor Herbert Schillingburg (complete with ZZ Top beard!), at a Glasgow dental meeting circa 1990, that in the late 1980s a small group of his graduate students secretly (no chance of getting that past a modern Ethics Committee!) measured the AOCs of *his* FVC preparations. Result: similar level of non-compliance with angles

recommended in *his* textbook as those reported in this paper!

In my early practising career, onlays/inlays were a rarity and full crown preparations the norm for extensive coronal repair where filling was no longer viable/indicated. I find that, 34 years later, the figures are virtually inverted: FVC preparation on classic principles is now a rarity. What is far more common is onlay/partial coverage crown preparation. I still have the Schillingburg book but it is the *principles* that I apply every day, rather than the prescriptive techniques. It was good to read of modified preparation techniques with notching and grooving. But I would go further and put it to the authors that contemporary dental practice (employing the principles of minimum intervention, preservation of healthy tooth tissue and pulp health maintenance) lead to the provision of increasingly hybrid restorations, ones that employ features of both crowns and onlays. May I suggest that we ought to be calling them 'cronlays'?

Y. Maidment, by email

DOI: 10.1038/sj.bdj.2018.555

Oral surgery

Perio disease and flap reconstruction failure

Sir, oral cavity tumor excisions often leave a large defect requiring reconstructive surgery with a flap. The complications of these surgeries have three main origins – surgical procedure, general state of health and recipient site's quality – and may take different forms: infection, arterial/venous thrombosis, hematoma and dehiscence. Here the recipient site of the graft is also the oral cavity which is populated with a large number of bacteria, some of which are the main etiological factors of periodontal diseases.

Ogihara *et al.*¹ examined the benefits of antibiotic coverage in these surgeries. They conclude that an association of molecules targeting aerobes, anaerobes and Gram-negative bacteria has a greater action than that of a simple agent. This spectrum also covers periodontopathogenic bacteria. In their study, Kamizono *et al.*² found 40% of post-operative site infection with a large number of Gram-negative anaerobic bacteria.

Thus, periodontal disease could be a risk factor for flap failure by promoting the risk of local infection and managing the bacterial load of the recipient site seems to be paramount. However, it seems that periodontal disease can also have a role through inflammatory processes.

This inflammation may have a local impact or a general impact. It can cause systemic inflammation by two main mechanisms: the local production of inflammation mediator within the periodontal tissues, thus increasing their overall rate and the release of pathogenic bacteria from periodontal tissues into the vascular system. The causal relationship between oral inflammation and the concentration of inflammatory compounds in the peripheral blood has been clearly demonstrated.³

Studies in animals have shown that periodontopathogenic bacteria may contribute to vascular inflammation by several mechanisms, such as the activation of Toll-like receptors, the increased production of pro-inflammatory mediators, and the expression of cell surface adhesion molecules. Similarly, Ohki *et al.*⁴ have shown that chronic periodontal disease has pro-thrombotic effects. However, free flap reconstruction requires vascular anastomosis and it is clearly established that low arterial quality is a risk factor for vascular anastomosis failure.

Periodontal disease could thus act on two levels. Indeed, on the one hand it will induce an inflammatory syndrome that will promote the risk of failure through thrombosis, but on the other hand it will also increase the risk of infection through the periodontopathogenic bacteria which are present. Thus, periodontal decontamination may be indicated before this type of surgery.

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DOI: 10.1038/sj.bdj.2018.556