Other journals in brief

A selection of abstracts of clinically relevant papers from other journals.

The abstracts on this page have been chosen and edited by Paul Hellyer

Hand filing or rotary instrumentation?

Impact of case difficulty on endodontic mishaps in an undergraduate student clinic

Haug S, Solfeld A, Ranheim L, Bardsen A. *J Endod* 2018; **44**:1088–1095.

Endodontic case complexity is a better guide to the likelihood of mishaps.

It is recognised that root canal treatment can be challenging, in part due to complex anatomy of the root canals, and even in experienced hands, 'endodontic mishaps' occur. It is also recognised that in undergraduate endodontic teaching clinics, with a staff ratio of one tutor to six students, mishaps – apical and lateral perforations, instrument separation, loss of working length and both short and over-long obturation – are inevitable.

In this study, the difference in occurrence of mishaps was studied between two groups of dental students, one of whom used hand files only and the other, the engine driven WaveOne reciprocating file system, augmented by hand filing as appropriate. Treated teeth were allocated to minimal, moderate or high degrees of difficulty, according to a standard protocol.

A total of 247 teeth were treated, of which 31.9% had at least one endodontic mishap, the most frequent of which was overinstrumentation. Thirty-seven teeth had multiple mishaps. Case difficulty, rather than instrumentation method, was correlated with endodontic mishap.

DOI: 10.1038/sj.bdj.2019.30

Who has MB2s?

Worldwide analyses of maxillary first molar second mesiobuccal prevalence: a multicenter cone-beam computed tomographic (CBCT) study
Martins J N R, Alkhawas M-B, Altaki Z *et al.* *J Endod* 2018; **44**: 1641–1649.

Study highlights geographic differences in prevalence.

Previous studies have indicated that root filled first molar teeth where the second mesiobuccal canal (MB2) was unfilled were more than four times likely to have a periapical lesion.

This study evaluated the prevalence of MB2 across 21 regions, using pre-existing CBCT images from private clinics. Examiners were sent instructions on how to interpret the radiographic images. Inter- and intra-rated kappa values were high (>0.9). A total of 5,250 images were examined, from 3,935 patients.

Analysis found a global prevalence of 73.8% for the presence of MB2, varying between 48% in Venezuela to 97.6% in Belgium (UK = 91.2%). When present bilaterally, 71% had MB2 in both molars. Globally, males had significantly greater prevalence of MB2 than females and younger patients (<40 years) greater prevalence than older people (>60 years).

Demographic differences between countries may explain some of the differences between regions – eg some had a considerably lower age range than others.

DOI: 10.1038/sj.bdj.2019.32

Highlights dentists' role in reporting child abuse

The experience of adverse childhood experiences and dental care in childhood

Crouch E, Radcliffe E, Nelson J, Strompolis M. *Community Dent Oral Epidemiol* 2018; **46**: 442–448.

Childhood abuse associated with increased risk of long-term illness.

Adverse childhood experiences (ACEs) include abuse as well as dysfunction within the household such as divorce, mental illness, substance misuse, domestic violence and incarceration. Exposure to ACEs has been associated with a greater risk of a number of chronic lifetime conditions such as depression, anxiety, cancer and premature death. Children with ACEs are more likely to have dental caries than those without.

In this study, 7079 adults aged 18–79, in South Carolina, USA were asked about the presence of ACEs in their past. They were also asked about the frequency of dental visits in childhood. Responses showed that the recollection of four or more ACEs was associated with inadequate dental care (dental visits less frequently than every two years). The presence of a protective adult in childhood reduces the likelihood of inadequate dental care.

The authors stress that the data are self reported and there may be some recall bias. However, they also highlight the role of dental care professionals in the reporting of childhood abuse the importance of relevant training.

DOI: 10.1038/sj.bdj.2019.31

Sealants are effective in high caries risk children

Effectiveness of resin based sealants with and without fluoride placed in a high caries risk population : multicentric 2 year randomised clinical trial
Muller-Bolla M, Courson F, Lupi-Pegurier L *et al.* *Caries Res* 2018; **52**: 312–322.

The presence of fluoride in the sealant material is less important.

A total of 483 pairs of teeth in 290 children were studied over a two year period using calibrated examiners and standardised techniques for sealant placement. It was found that sealant placement was effective at preventing carious lesions and that this protective effect was present regardless of the absence of fluoride in the sealant material.

Other risk factors considered included deep fissures in permanent molars, the presence of non-cavitated lesions and previous caries experience in the deciduous dentition. Salivary tests for *Mutans streptococci* and *Lactobacilli* were not found to be significant markers, neither was sugar consumption and use of fluoride toothpaste.

The authors speculate that 'the relationship between sugar consumption and caries is much weaker in the modern age of fluoride exposure [...] in school children and adolescents.' They conclude that it is important to seal all the permanent molars of high risk children, in presence of existing lesions into dentine, in order to prevent the development of further deep lesions.

DOI: 10.1038/sj.bdj.2019.33