

## DRESSING THE ACCESS CAVITY

Sir, I write further to the paper on general dental practitioners and open drainage (BDJ 2013; 215: 611–616). Although this was a detailed and informative paper it failed to mention what the most appropriate materials required to dress the access cavity of a tooth are, assuming endodontic treatment is not completed in a single visit. I would be grateful if the authors could comment on this as there are a variety of materials and medicaments that have been advocated for use.

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*Authors S. Eliyas, M. W. Barber and I. R. Harris respond: Thank you for your comments. Inter-appointment root canal medication is an important topic; we did not discuss this area in our article as it was not within the remit of this particular study. However, we have the following*

*comments: subsequent to preparation, we recommend that the root canals are dressed with non-setting calcium hydroxide and temporised with a good coronal seal; a good summary of the use of intracanal medicaments is Athanassiadis et al.<sup>1</sup> There are a number of materials available for temporisation and a 'double seal' is often recommended. It is difficult to state one ideal material for temporisation, however, there are some detailed papers discussing the issue such as Jensen et al.<sup>2</sup> and Naoum and Chandler.<sup>3</sup>*

1. Athanassiadis B, Abbott PV, Walsh LJ. The use of calcium hydroxide, antibiotics and biocides as antimicrobial medicaments in endodontics. *Aust Dent J* 2007; **52**(1 Suppl): S64–S82.
2. Jensen A-L, Abbott PV, Salgado J C. Interim and temporary restoration of teeth during endodontic treatment. *Aust Dent J* 2007; **52**: S83–S99.
3. Naoum HJ, Chandler NP. Temporization for endodontics. *Int Endod J* 2002; **35**: 964–978.

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## RESTORATIVE

### Bio-treatment of caries

Sir, deep carious lesions are challenging with regard to selecting a restorative treatment method which preserves pulp vitality. In recent years the treatment trend has changed from traditional complete caries removal to stepwise excavation (SE), partial caries removal (PCR) and no caries removal (NCR) modalities.

Clinical trials carried out in this field have shown several shortcomings questioning the validity of the study: application of calcium hydroxide as the common liner, restoration of the teeth with different restorative materials in a single trial, and including both permanent and primary teeth in a single study are among some of the confounding variables that may be responsible for the lower validity or bias of some trials. Some of these issues were also pointed out recently by the *Cochrane Database Systematic Review*.

In the last two decades biomaterials have been introduced in dentistry. In spite of the advances in this area, it is surprising that none of the studies on deep carious lesions assessed the application of new biomaterials such as MTA and Biodentine which could have higher antibacterial activity, biocompatibility and sealing ability than calcium hydroxide, which is applied as a common liner in SE or PCR.

According to the results of a clinical trial we have carried out, the application of biomaterials or 'bio-treatment of

deep carious lesions' can be considered as an effective method to restore the involved tooth both biologically and functionally with long-term pulp vitality. We encourage dental researchers and professionals to establish guidelines to conduct high quality clinical trials and introduce a scientific, reliable and valid method to dentists for bio-treatment of deep caries.

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### Bibliography

1. Kidd EA. How 'clean' must a cavity be before restoration? *Caries Res* 2004; **38**: 305–313.
2. Ricketts DN, Kidd EA, Innes N, Clarkson J. Complete or ultraconservative removal of decayed tissue in unfilled teeth. *Cochrane Database Syst Rev* 2006; **19**: CD003808.
3. Ricketts D, Lamont T, Innes NP, Kidd E, Clarkson J E. Operative caries management in adults and children. *Cochrane Database Syst Rev* 2013; **3**: CD003808.
4. Bjørndal L. Stepwise excavation may enhance pulp preservation in permanent teeth affected by dental caries. *J Evid Based Dent Pract* 2011; **11**: 175–177.
5. Maltz M, Garcia R, Jardim J J et al. Randomized trial of partial vs. stepwise caries removal: 3-year follow-up. *J Dent Res* 2012; **91**: 1026–1031.
6. Bjørndal L, Reit C, Bruun G et al. Treatment of deep caries lesions in adults: randomized clinical trials comparing stepwise vs. direct complete excavation, and direct pulp capping vs. partial pulpotomy. *Eur J Oral Sci* 2010; **118**: 290–297.
7. Ricketts D, Lamont T, Innes NP, Kidd E, Clarkson J E. Operative caries management in adults and children. *Cochrane Database Syst Rev* 2013; **3**: CD003808.
8. Maltz M, Olivera E F, Fontanella V, Carminatti G. Deep caries lesions after incomplete dentine caries removal: 40-month follow-up study. *Caries Res* 2007; **41**: 493–496.
9. Hayashi M, Fujitani M, Yamaki C, Momoi Y. Ways of enhancing pulp preservation by stepwise excavation – a systematic review. *J Dent* 2011; **39**: 95–107.

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