

Dear Sir,

Which filling material for apicectomy? Evidence based Dentistry 2004; 5:12

I, along with some of my colleagues, recently read the first issue of volume 5 of Evidence Based Dentists and focussed on page 12, which reported a systematic review of retrograde filling materials. We were amazed to read the practice point that at present the evidence is not strong enough to recommend a move from amalgam.

Clinical decision-making must be based on all other research available, namely laboratory based, animal studies and human clinical studies. In the case of apicectomies, radiological assessment is not a very precise research tool. The histological assessment of animal studies has revealed a lot about the poor outcome of the traditional apicectomy. Based on the histological evidence of severe inflammation adjacent to amalgam retrograde fillings, I consider that amalgam should no longer be used for this purpose.

It is disappointing that many devotees of evidence-based dentistry look no further than clinical trials. They need to see the wider picture.

Yours faithfully,

TR Pitt Ford

GKT Dental Institute, Guy's Campus, London

Dear Sir,

The question is what is the best retrograde root filling material not whether we should move from amalgam? In over 15 years of specialist practice and postgraduate teaching, I have not used or recommended amalgam as a retrograde filling material. Neither the American Association of Endodontists nor the British Endodontic Society would now consider amalgam an appropriate material for this purpose. Randomised controlled trials (RCT) may be limited

but there are countless laboratory-based and animal studies^{1,2} against the use of amalgam. In fact, it is not considered acceptable to use amalgam as the control when studying alternative materials.³ Incidentally, this last study is an RCT on Mineral Trioxide Aggregate (MTA), which was published in the same journal, one issue before the systematic review, the subject of the commentary. Therefore the assertion that no controlled trials have been performed on MTA is also incorrect.

It is extremely surprising that your commentator is unaware of the move from amalgam.

Yours faithfully,

BS Chong

GKT Dental Institute, Guy's Hospital, London

1. Chong BS, Pitt Ford TR, Kariyawasam SP. Short-term tissue response to potential root-end filling materials in infected root canals. *Int Endod J* 1997a; 30:240–249.
2. Chong BS, Pitt Ford TR, Kariyawasam SP. Tissue response to potential root-end filling materials in infected root canals. *Int Endod J* 1997b; 30:102–114.
3. Chong BS, Pitt Ford TR, Hudson MB. A prospective clinical study of Mineral Trioxide Aggregate and IRM when used as root-end filling materials in endodontic surgery. *Int Endod J* 2003; 36:520–526.

Dr Toru Naito the commentary author responds

I agree with Professor Pitt Ford and Dr Chong. Based on laboratory animal studies, or histological analysis, there appears to be evidence to support a move from amalgam to alternative retrofilling materials. However MTA has not been universally approved for this use.

While Dr Chong points out that his paper was published immediately prior to the systematic review it would have been unpublished at the time the review was submitted for publication. The study¹ was well conducted and has a large number of patients, with 221 initially included with 183 suitable for apicectomy. The study reports a success rate of approximately 90% with the use of MTA and IRM, and finds no statistical difference between the two

Table 1

	1st Year review				2nd Year review			
	Number available for review	Teeth showing complete healing		Number available for review	Teeth showing complete healing			
		<i>n</i>	%		<i>n</i>	%		
MTA	64	41	64	61	45	73		
IRM	58	24	58	47	34	72		
Percentage of teeth available for review		67			47			

materials (Table 1). Interestingly, a power calculation indicates that 70 patients would be required in each group to show a statistical difference. The drop-out rate is above 20%, and this has implications on what one can conclude, a problem that is discussed in the paper.

The systematic review² does suggest that other materials are as effective as amalgam for retrofilling but the evidence is limited, and Dr Chong's study does add to the evidence-base. However, before one can conclude that any material is better or worse than amalgam, more high quality studies, like Dr Chong's, but with direct comparisons are needed.

Dr T Naito

1. Chong BS, Pitt Ford TR, Hudson MB. A prospective clinical study of mineral trioxide aggregate and IRM when used as root-end filling materials in endodontic surgery. *Int Endod J* 2003; 36:520–526.
2. Niederman R, Theodosopoulou NJ. A systematic review of in vivo retrograde obturation materials. *Int Endod J* 2003; 36:577–585.

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