

Questions and answers in EBD volume 8

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As in previous years we are highlighting the guidelines, questions and answers addressed by summaries in Evidence-based Dentistry.¹⁻⁵ Evidence levels⁶ are only given for those papers achieving level 3A and above.

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Guidelines

Subject	Page
Behaviour change	98-100

Summaries

Topic	Question	Answer	Evidence level	Page
Dental caries				
	What are retention rates of resin-based sealants?	Fluoride-containing sealants have a lower retention rate than light-cured or autopolymerised sealants	1A	8-9
Dental public health				
	Is fluoride effective in preventing coronal caries in all adults and in older adults (40+ years) and in preventing root caries in the older group?	Findings suggest that fluoride is effective in preventing caries in adults of all ages	1A	72-73
	Does school dental screening impact upon untreated dental disease or dental attendance at a population level?	School dental screening delivered according to three different models was not effective at reducing levels of active caries and increasing dental attendance in the population under study	1B	5-6
	Do home visits that provide new mothers with breastfeeding and weaning advice reduce odds of infants developing ECC?	Home visits giving dietary advice appear to help reduce ECC in infants	1B	108-109
Endodontics				
	What is the most effective post and core system to use in the restoration of endodontically-treated teeth?	This review could not specify which system should be used when two or three dentine walls remain. More RCT are needed to confirm whether fibre-reinforced post and core systems are superior and to clarify the influence of remaining tooth structure on treatment outcome using different post and core systems	1A	42
	Is surgical treatment more effective than nonsurgical treatment when patients need retreatment of periapical disease?	No difference is apparent between surgical and nonsurgical approaches: choice of treatment should be based on patients' initial clinical situation and preference, operator experience and skill, risk of complications, and technical feasibility and cost	1A	101
	Is a cold test effective in determining whether patients will experience pain during root canal therapy?	A cold test after obtaining subjective symptoms of anaesthesia is a reliable way of assessing efficiency of profound pulpal anaesthesia, particularly if pain to cold was noted at diagnosis stage	1B	102
	Is PUI more effective than syringe irrigation in cleaning the root canal?	PUI appears to be a possible adjunctive treatment for cleaning the root canal system and may be more effective than syringe irrigation. More research is needed to clarify underlying physical mechanisms through which PUI works	3A	78
	When patients undergo root canal treatment, does calcium hydroxide medication eliminate residual bacteria?	Calcium hydroxide has limited effectiveness in eliminating bacteria from root canals	N/A	15-16

Methodology				
What strategies are effective in increasing response rates to postal questionnaires?	The range of strategies tested to increase response rates to postal questionnaires should be taken into account	1A		53–54
Does peer review improve the quality of scientific publications?	At present, little empirical evidence is available to support the use of editorial peer review as a mechanism to ensure quality of biomedical research	1A		88–89
Oral cancer				
Does fruit and vegetable intake affect oral cancer?	Consumption of fruit and vegetables was associated with reduced risk of oral cancer. Prospective studies are needed to confirm this	3A		19–20
What factors influence patient delay in reporting oral cancer?	Patient delay in reporting oral cancer is a problem but reasons for delay are poorly understood and under-researched. Systematic, high-quality and theory-driven research in this area is urgently required	N/A		21
Oral medicine				
What is the efficacy and safety of topical lidocaine in the treatment of PHN?	Topical lidocaine cannot be recommended as a first-line agent in the treatment of PHN: gabapentin and tricyclic antidepressants currently remain the most beneficial treatments for PHN	1A		85–86
Is topical HA effective for treatment of recurrent aphthous ulceration?	Benefits of HA therapy were principally transient and precise benefits of HA over simple, already-available agents remain to be determined	1B		52
Oral surgery				
What is the best method to prevent alveolar osteitis when patients undergo dental extraction?	This systematic review provides clinically significant evidence that repeated chlorhexidine mouth rinses, beginning pre-operatively, reduce incidence of dry socket	1A		43
Is there a difference in stability and morbidity with fixation of bone segments with biodegradable or titanium fixation devices in orthognathic and trauma surgery?	Definite conclusions cannot be drawn regarding long-term performance of biodegradable fixation devices used in maxillofacial surgery	1A		44
Is paracetamol (acetaminophen) effective in controlling pain after oral surgery?	This review provides useful information on dose and frequency of paracetamol for pain relief following third molar removal, but note that 19% of patients reported adverse events	1A		79–80
Does intra-operative local anaesthesia reduce postoperative pain in paediatric patients?	Intra-operative local anaesthesia was found to be effective for pain control following a range of other surgical procedures, but was not effective in reducing postoperative pain or distress in children after oral surgery	1B		45–46
What is the best way to manage fractured edentulous atrophic mandibles?	This review illustrates the inadequacy of current evidence to support the effectiveness of any single approach, either open or closed, in management of fractured atrophic edentulous mandibles. Until high-level evidence is available, treatment decisions should continue to be based on clinician's prior experience	N/A		87
Orthodontics				
Are orthodontic and orthopaedic treatments effective at correcting anterior open bite (dental, dento-alveolar and/ or skeletal) in children?	There is weak evidence that the interventions Frankel's function regulator-4 with lip-seal training and palatal crib associated with high-pull chincup are able to correct anterior open bite. Since the included trials have potential bias, results must be viewed with caution. Recommendations for clinical practice cannot be made based only on the results of these trials	1A		83
At what age should orthodontic treatment for prominent upper teeth be carried out?	The evidence suggests that providing early orthodontic treatment for children with prominent upper front teeth is no more effective than providing one course of orthodontic treatment when the child is in early adolescence	1A		103–104
Is there any difference between a learner-control and a program-control multimedia courseware package, in terms of knowledge, understanding and application, when used to teach undergraduates the principles of orthodontic appliances?	In this study, the learner-control instructional multimedia program was found to be as effective as the program-control version when teaching principles of the orthodontic appliances to undergraduate students	1B		18

In orthodontic treatment, in order to achieve a working archwire, which is the most effective archwire sequence?	The archwire sequences investigated were not statistically significantly different in terms of patient discomfort and upper incisor root resorption, but clinicians may choose the sequence 0.016-inch nickel titanium (NiTi), 0.0180.025-inch NiTi and 0.0190.025-inch stainless steel to minimise the number of visits required to attain a working archwire	1B	48
Is there a difference in clinical failure rates between bonded and banded first-molar attachments during fixed appliance therapy?	First-molar tubes bonded with no-mix chemically cured composite showed a significantly higher first-time failure rate than bands cemented with glass-ionomer cement	1B	105
What are the long-term effects of orthodontic treatment on morphological stability and patient satisfaction?	Despite numerous studies on long-term stability after orthodontic treatment, this systematic review shows that evidence-based conclusions are few. This is mostly because of inherent problems with retrospective and inferior study design. There is a great need for well-designed prospective studies with untreated control groups; sufficient sample sizes; and sample selection according to type of malocclusion, age and growth pattern	2A	81–82
Are oral appliances or functional orthopaedic appliances effective in the treatment of obstructive sleep apnoea in children?	Oral appliances do not always work in the treatment of obstructive sleep apnoea in children, but as they are noninvasive and relatively risk-free, may have a role before adenotonsillectomy is considered	2B	84
What is the magnitude of true incisor intrusion that can be obtained during orthodontic treatment?	True incisor intrusion is achievable in both arches, but the clinical significance of the magnitude of true intrusion as the sole treatment option is questionable for patients with severe deep bite. In nongrowing patients, the segmented arch technique can produce 15 mm of incisor intrusion in the maxillary arch and 19 mm in the mandibular arch	N/A	17
Does the cephalometric facial soft tissue change after the use of the Activator and Bionator appliances in Class II division 1 patients?	There is a significant amount of controversy regarding soft tissue changes produced by the Activator and the Bionator. Soft tissue changes reported as being statistically significant were of questionable clinical significance	N/A	49
Do children who have cleft lip and palate have elevated caries levels in the primary and permanent dentition?	There was a clear tendency towards more caries in primary teeth in children who have cleft lip and palate. No firm conclusion could be made because the quality of the eligible studies was low–moderate and there are conflicting results	N/A	106

Paediatric dentistry

Is MTA more effective than formocresol for primary molar pulpotomy?	The review supports use of MTA but methodological weaknesses mean that caution should be exercised in extrapolating to clinical practice	1A	11–12
What is the effect of bi-annual professional application of acidulated phosphate fluoride foam on caries increment in primary teeth?	Bi-annual professional application of acidulated phosphate fluoride foam, over 2 years, was effective in reducing caries increment in primary teeth	1B	7
Does viewing positive images of dentistry affect the anticipatory dental anxiety levels of children?	This trial showed that viewing positive images of dentistry and dentists resulted in short-term reductions in anticipatory anxiety in children	1B	47
Is MTA more effective than formocresol for pulpotomy in primary molars?	MTA appears to be a reliable alternative material for pulpotomy in primary molar teeth	1B	107
What is the probability that a torn labial frenum is caused by physical child abuse?	A torn labial frenum in isolation cannot be regarded as pathognomonic of physical abuse, and must be assessed in the context of the history given, and a full examination with appropriate investigations	3A	71
Are preformed metal crowns more effective than conventional filling materials (amalgam, composite, glass ionomers and compomers) for the restoration of primary teeth?	The use of preformed metal crowns is recommended in clinical practice by specialist societies: the evidence to support this is not strong, consisting mainly of case reports and uncontrolled studies	N/A	10

Periodontology

What interventions improve adherence to oral hygiene instruction in adults who have periodontal disease?	There is some evidence, from low-quality studies, that psychological approaches to behaviour management, such as use of reinforcement, goal setting and provision of feedback, can improve oral hygiene and oral hygiene-related behaviours	1A	39–40
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Are dentifrices containing stannous fluoride effective in reducing gingivitis?	Stannous fluoride toothpaste is more effective in reducing the gingival index than sodium fluoride toothpaste, but the magnitude of the effect is small and clinical effectiveness remains unclear	1A	74–75
Is there an association between oral health and pneumonia or other respiratory diseases?	There is some evidence to suggest an association	1A	116
Does improved periodontal health improve metabolic control of type 2 diabetes?	The trial suggests that nonsurgical periodontal treatment is associated with improved glycaemic control in type-2 diabetic patients	1B	13
In type-1 diabetics, is nonsurgical periodontal treatment with adjunctive doxycycline more effective than nonsurgical periodontal treatment alone?	In type 1 diabetes patients, doxycycline given adjunctively to scaling and root planing, has a limited additional clinical benefit	1B	14
Does periodontal treatment during pregnancy reduce the rate of preterm births?	Periodontal therapy does not reduce occurrence of poor pregnancy outcomes	1B	38
Does low-dose doxycycline improve clinical outcomes when smokers have periodontal therapy?	Nonsurgical periodontal therapy in smokers can produce a substantial improvement in periodontal health but there is no evidence to support use of low-dose doxycycline as an adjunct to nonsurgical therapy	1B	41
What is the strength of association between periodontal disease in mothers and birth of their infants preterm or with low birthweights?	Even though most available studies report a positive association between periodontal disease and poor pregnancy outcomes, evidence provided by the best studies counteracts this and suggests that bias and confounding may account for much of the association	3A	114–115

Prosthodontics

What is the best posterior tooth form for complete dentures?	Patients tend to prefer lingualised or anatomic posterior occlusal forms over the zero degree form	1B	113
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Restorative dentistry

How effective are the different pulp management techniques used to treat asymptomatic carious teeth and maintain pulp vitality?	The findings of this review suggest that there should not be any significant change from accepted conventional practice procedures when the pulp of the carious tooth is considered. Further well-designed RCT are needed to investigate the potential of contemporary materials which may be suitable for management of carious teeth	1A	76–77
Can inexperienced dentists provide two-implant overdentures that are as satisfactory, and at the same cost, as those provided by experienced prosthodontists?	General dentists can produce implant overdentures but the minimum level of training required to do that remains to be determined	1B	50
Is the atraumatic restorative technique an effective method of treating root caries in older people?	In elderly people living in care homes, the 12-month survival rate of glass-ionomer restorations placed on root surfaces using the atraumatic restorative technique was high and comparable with conventional restorations	2B	51

Temporomandibular disorders

Does medical management improve pain and jaw function as much and as quickly as rehabilitation with/ without surgery in initial management of temporomandibular joint closed lock?	The findings of this study suggest primary treatment for temporomandibular joint closed lock should consist of medical management or rehabilitation	1B	112
How effective are physical therapy interventions in the management of temporomandibular disorder?	Some techniques may be effective but they should be considered with caution because none were supported by numerous, decisive studies	2A	110–111

ECC, Early childhood caries; RCT, randomised controlled trial; PUI, passive ultrasonic irrigation; PHN, postherpetic neuralgia; HA, hyaluronic acid; MTA, mineral trioxide aggregate; N/A, not applicable.

1. Lawrence A, Richards D. Questions answered in EBD volumes 1 and 2. *Evid based Dent* 2002; 3:27–29.
2. Richards D. Questions and answers in EBD volumes 3 and 4. *Evid based Dent* 2003; 4:94–97.
3. Richards D. Questions and answers and guidelines in EBD volume 5. *Evid based Dent* 2004; 5:110–112.
4. Richards D. Questions and answers and guidelines in EBD volume 6. *Evid based Dent* 2005; 6:104–107.
5. Richards D. Questions and answers in EBD volume 7. *Evid based Dent* 2006; 7:109–113.
6. Richards D. Not all evidence is created equal — so what is good evidence? *Evid based Dent* 2003; 4:17–18.