

# Questions and answers in EBD volume 9

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**Like its annual predecessors, this end-of-year toolbox highlights the guidelines, questions and answers addressed by summaries and guidelines in the current volume of Evidence-based Dentistry. Evidence levels<sup>1</sup> are only given for those papers achieving level 3A and above.**

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Guidelines		
Topic Area	Subject	Page
Caries	Pits and fissure sealant guidelines	68-69
Oral Medicine	Prophylaxis against infective endocarditis	37-38
Oral Medicine	Bisphosphonate associated osteonecrosis of the jaw	101- 102

Dental Evidence-based Topics (DEBT)			
Topic Area	Subject	Answer	Page
Caries	Does continuation of breastfeeding increase the risk of early childhood caries (ECC) in infants of over 6 months of age, compared with other methods of infant feeding?	Given the proven health benefits of breastfeeding and the lack of consistent evidence linking breastfeeding to the development of ECC, dental professionals should support current recommendations for breastfeeding. Emphasis should be placed on promoting good oral hygiene practice from the time of eruption of the first tooth and advice to reduce the frequency and consumption of sugar-containing foods and drinks.	68-69
Restorative Dentistry	In Children between 6 and 10 years of age do amalgam restorations compared with composite restorations increase the risk of neuropsychological disorders?	There is no significant statistical association between the changes in the neurobehavioral and neuropsychological scores considered and the exposure to amalgam restorations in children. Under conditions similar to these trials, there is no reason other than aesthetics to discard amalgam as a choice to restore posterior teeth in children.	25-27

Summaries				
Topic	Question	Answer	Evidence Level	Page
<b>Caries</b>				
	In deep carious lesions, should all infected and affected dentine be removed prior to restoration?	There is substantial evidence that, for caries management, it is not necessary to remove all vestiges of infected dentin from lesions approaching the pulp.	1A	71-72
	Are home advice visits effective in reducing caries at the age of 1 year?	A programme of home visits for dietary advice may reduce dental caries in young children.	1B	11

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	Is the Hall technique (where a pre-formed metal crown (PMC) is cemented with no local anaesthesia, caries removal or tooth preparation, more effective than conventional methods of caries management for primary molars?	The Hall technique seems to offer an effective, non-invasive treatment option for carious primary molar teeth involving two or more surfaces.	1B	44-45
	Is the Hall technique acceptable to children, their carers and dentists?	The Hall technique was preferred to conventional restorations by the majority of children, carers and dental practitioners	1B	44-45
	Is fluoride varnish an effective public health measure for reducing dental caries in children?	This trial provides some evidence that this approach may not be effective	2B	9-10
	Does fluoridation of water supplies reduce dental caries	Fluoridation is a socially equitable means of achieving community-wide exposure to the preventive effects of fluoride.	2B	39-43
<b>Dental Public Health</b>				
	What staff-led oral care interventions are more effective than standard care for individuals after a stroke?	Based on one study with a small number of stroke survivors, providing specialist oral care training for carers in a nursing-home setting improves their knowledge of and attitudes towards the provision of oral care.	2B	73
<b>Endodontics</b>				
	Is ultrasonic instrumentation more effective than hand instrumentation for orthograde root canal treatment?	At present, the evidence is not strong enough to recommend a move from manual and rotary files to ultrasonic systems.	1A	12
	When people need root canal treatment of permanent teeth, are single-visit treatments as effective as multiple-visit treatments?	No difference exists in the effectiveness of root canal treatment, in terms of radiological success, between single- and multiple-visit treatments. Most short- and long-term complications are also similar in terms of frequency, although patients undergoing a single visit may experience a slightly higher frequency of swelling and are significantly more likely to take painkillers.	1A	24
	When patients need apical surgery, is root-end preparation with ultrasonic devices as effective as the round dental bur	The use of an ultrasonic device in apical surgery showed a clear benefit over the traditional treatment. Especially in molars, where the access to the root end becomes more difficult.	1B	53
<b>Methodology</b>				
	Does handsearching identify more randomised controlled trials than electronic searching?	Hand searching is still valuable in identifying randomised trials for inclusion in systematic reviews of healthcare, particularly trials reported as abstracts or letters, those published in languages other than English, along with all reports published in journals not indexed in electronic databases. Where time and resources are limited, however, searching an electronic database using a complex search will identify the majority of trials published as full reports in English language journals, provided, of course, that the relevant journals have been indexed in the database.	N/A	85
<b>Oral Cancer</b>				
	What is the association between smokeless tobacco and oral cancer in European and American populations?	Smokeless tobacco, as used in America or Europe, carries an increased risk of oral cancer, but elevated risks in specific populations or from specific products cannot definitely be excluded.	N/A	114-115

Oral medicine				
	Is systemic aciclovir effective in the treatment of primary herpetic stomatitis?	Two relevant trials were found for this systematic review. Only one was able to provide weak evidence that aciclovir is an effective treatment in children under 6 years of age with primary herpetic gingivostomatitis, in reducing the number of oral lesions, preventing the development of new extra-oral lesions, decreasing the number of individuals experiencing difficulties eating and drinking and reducing hospital admission.	2B	117
	Are antiviral agents effective in the treatment of adult patients with Ramsay Hunt syndrome?	This review only identified one small trial which found no benefit for antiviral therapy for Ramsay Hunt syndrome.	2B	116
	In patients with hip and knee replacements is antibiotic prophylaxis necessary for invasive dental procedures?	The case for providing antibiotic prophylaxis prior to dental treatment in patients fitted with a joint prosthesis is weak or virtually non-existent	N/A	103-104
	What is the prevalence of oral lichen planus?	There is not sufficient evidence to enable an estimate of population prevalence to be calculated for OLP.	N/A	112-113
Oral Surgery				
	In patients with fractures of the mandibular condyle, does open or closed reduction produce the best outcomes?	Because of the great variation in how the various study parameters were reported, it was not possible to perform a reliable meta-analysis. There is a need for better standardisation of data collection in future studies as well as randomisation of the patients treated so that the two approaches can be accurately compared.	2B	84
	Is suturing necessary after dental extractions when patients temporarily discontinue their anticoagulant therapy?	The trial does provide limited evidence; however, that continuing warfarin therapy in patients undergoing dental extractions has little adverse effect on postoperative healing or bleeding. Importantly, this will also avoid the increased risk of thromboembolic events associated with stopping warfarin, one of the main points emphasised in current guidelines.	N/A	7
Orthodontics				
	Are powered toothbrushes more effective than manual brushes in reducing gingival inflammation when patients are undergoing fixed appliance orthodontic treatment?	At present, the evidence is not strong enough to advocate the use of powered toothbrushes over manual toothbrushes for reducing gingivitis in orthodontic patients.	1A	78
	Is anchorage reinforcement using implants or other surgical methods as effective as conventional techniques when people undergo orthodontic treatment?	There is limited evidence that osseointegrated palatal implants are an acceptable means of reinforcing anchorage.	1A	13-14
	Do regular fluoride applications reduce the development of white spot lesions (WSL) when people are undergoing fixed orthodontic treatment?	The results strongly suggest that regular topical fluoride varnish applications may reduce the development of WSL adjacent to the bracket base during treatment with fixed appliances.	1B	81
	Are there more orthodontic bracket bond failures with self-etching primer (SEP) than with conventional (AE) etch and primer systems?	There was no difference in the failure rates of brackets bonded with either SEP or conventional AE systems. Bonding with SEP was significantly faster than using conventional	1B	79-80
	Is folic acid deficiency associated with facial clefts?	Folic acid supplements during early pregnancy seem to reduce the risk of isolated cleft lip (with or without cleft palate) by about a third. Other vitamins and dietary factors may provide additional benefit.	N/A	82-83

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	In patients with palatally canines does open of closed surgical method provide the best outcome?	Currently, there is no evidence to support one surgical technique over the other in terms of dental health, aesthetics, economics and patient factors	N/A	111
<b>Periodontology</b>				
	Do mouthrinses containing essential oils reduce the effect of dental plaque and gingivitis in the long term?	There is some evidence that essential oils provide a small additional benefit with regard to plaque and gingivitis reduction compared to placebo or control.	1A	18-19
	In periodontal maintenance patients, does a rotation–oscillation action powered toothbrush and triclosan-containing dentifrice result in superior clinical periodontal conditions than with manual toothbrushing and a regular dentifrice?	The study failed to demonstrate superior clinical and microbiological effects of powered toothbrush and triclosan dentifrice compared with manual toothbrush and standard fluoride-dentifrice in periodontitis-susceptible subjects undergoing regular maintenance therapy. However they confirm that with regular maintenance and reinforcement of oral hygiene procedures specific to each patient, periodontal health can be maintained even in people who have advanced attachment loss.	1B	74-75
	Is periodontal disease associated with adverse pregnancy outcomes?	The authors found a modest positive association between periodontitis and preterm birth, but no association with the outcomes low birthweight and preterm low birthweight. The possibility of a residual confounding effect of contextual factors can not be eliminated.	2B	48
	Is there a relationship between periodontal disease and coronary heart disease?	This review adds strength to the hypothesis that periodontal disease is a risk factor for coronary heart disease	3A	8
	Is periodontal disease associated with pre-eclampsia?	Periodontal disease during pregnancy is associated with an increased risk of pre-eclampsia. More studies are required to verify this as well as to explore whether or not such relationship is causal and, if so, the mechanisms involved.	3A	46-47
	Is toothbrushing effective in preventing development or progression of noninflammatory, localised gingival recession?	The data to support or refute the association between toothbrushing and gingival recession are inconclusive.	3A	49
	Does chlorhexidine varnish reduce plaque accumulation, gingival index and bleeding levels in people who have chronic gingivitis?	There is some evidence supporting the use of chlorhexidine varnishes as an adjunct to routine periodontal therapy, with greatest impact at sites of more advanced disease. This must be balanced, however, against the prerequisite that conventional periodontal management must meet the highest standards in the first place, and that the long-term impact of this adjunct remains uncertain.	N/A	76
<b>Restorative</b>				
	When individuals are given dental implants, are there different success rates for immediately / early-loaded implants compared with conventionally loaded implants?	it is possible to successfully load implants immediately or early after implant placement, but that not all clinicians achieve optimal results. Case selection and the degree of primary implant stability was a primary requisite for success	1A	50

	What are the best techniques for handling soft tissues during dental implant placement?	Flapless implant placement is feasible and has been shown to reduce patient postoperative discomfort in appropriately selected patients. Sufficient, reliable evidence is not available for recommendations to be made about which techniques or materials for incision or suture are most beneficial to patients. This is also the case for techniques to correct or augment perimplant soft tissues or to increase the width of keratinised or attached mucosa.	1A	77
	Does giving antibiotics at the time of dental implant placement prevent complications?	There is some evidence to suggest that antibiotic prophylaxis reduces failure of dental implants placed in ordinary conditions.	1A	109-110
	When restoring shortened lower dental arches, are bilateral cantilever resin-bonded fixed partial dentures more effective than conventional removable partial dentures?	The resin-bonded cantilever bridge and removable partial dentures appear to perform equally poorly, but the former may require less post-delivery care.	1B	105-106
	Do implant overdentures improve food choice and ability to chew food compared with conventional dentures?	Food selection and perceived chewing difficulty improved in both groups, with no significant differences between groups. Successful rehabilitation may not result in different food selection, which may require concurrent tailored dietary interventions, but may increase available food choices.	1B	107-108
	Do implant retained or supported dentures improved masticatory performance?	High-level evidence supporting Advantages in masticatory performance of implant-supported or retained dentures over conventional dentures is limited.	2A	22
	What is the most effective way of restoring an abscessed tooth, nonsurgical endodontic treatment, extraction and implant placement (ISC), extraction and fixed partial denture (FPD) OR extraction without tooth replacement?	In the short term, endodontic treatment, FPD and ISC have equally high success and survival rates. The decision on how to manage an abscessed tooth (in the 5–6 year timeframe) should be based on factors other than prognosis, namely prognostic risk factors (medical history, smoking, caries), patient preferences and economics	2A	15-17
	What is the long term survival rate for resin bonded bridges(RBBs) and what is the incidence of technical and biological complications?	The 5-year survival estimate for RBBs is high (87.7%) but lower than for implant supported FPDs and conventional FPDs for the same time period. RBBs have frequent technical complications such as debonding.	2A	20-21
	What is the survival rate of implant-supported single crowns(SC) at 5 years?	An observation period of 5 years allows the conclusion that high survival rates of implants and implant-supported SC can be expected, but biological and, particularly, technical complications are frequent.	2A	51-52
<b>Tooth Wear</b>				
	Are occlusal splints effective in the treatment of sleep bruxism?	There is not enough evidence to state that the occlusal splint is effective for treating sleep bruxism. Indication of its use is questionable with regard to sleep outcomes, but there may be some benefit with regard to tooth wear.	1A	23
	What is the prevalence of dental erosion in patients who have gastro-oesophageal reflux (GERD)?	The association between GERD and dental erosion is entirely plausible but the strength of association and the epidemiological evidence remains unclear.	N/A	54

\* Where relevant. ECC, Early childhood caries; RCT, randomised controlled trial; WSL, white spot lesions; SEP, self-etching primer; ISC, implant-supported crowns; FPD, fixed partial denture; RBB, resin-bonded bridges.

1. Richards D. Not all evidence is created equal — so what is good evidence? Evid Based Dent 2003; 4:17–18.