

Questions and Answers in EBD Volumes 3 and 4

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Previously¹ we have outlined the Questions and Answers addressed by summaries in EBD volumes one and two. Here we list a further 84 questions, answers and evidence levels of areas addressed in EBD volumes 3 and 4. Evidence levels² are only given for those papers achieving level 3A and above.

Question	Answer	Evidence level	Volume and page number
Cariology			
Is a glass ionomer fissure sealant effective in reducing occlusal caries?	Glass ionomer sealant has a caries-preventive effect	1B	4.79
Are there clear agreed definitions for early or severe childhood caries?	No — There is a clear need for Internationally accepted definitions		3.75
Cosmetic Dentistry			
Are dentist prescribed home applied tooth whitening agents effective?	On average a 2 shade guide improvement in colour can be achieved with no adverse effects	1A	3.76
Dental Education			
Are computer-aided learning (CAL) programmes effective in teaching dental students?	CAL programmes are as effective as other methods	1A	4.81
Dental Implants			
Do hydroxyapatite implants survive as long as titanium ones?	The review suggests that survival rates for both sets of implants are similar, but that more work and better quality reporting is required	2A	3.77–78
Does the use of dental implants in edentulous patients result in better quality of life compared with conventional treatment?	Implant patients had better quality of life in this short term follow-up study	1B	3.73–74
Endodontics			
In patients with radiographically determined failure of surgical endodontics what is the success rate of repeat surgery?	Success rate for repeat surgery was found to be 37.5%	2A	4.51
Infection Control			
How well do dental team members follow infection control guidelines?	Compliance has improved but work needs to be done to improve important gaps that do exist	1B	4.33
Oral Cancer			
What is the discriminatory ability of visual oral cancer screening?	Discriminatory ability is high irrespective of grade and training	2A	3.79–80
Does information about oral cancer encourage primary care patients to accept oral cancer screening?	A simple leaflet in primary health care setting can change knowledge about oral cancer and increase intention to go for screening and reduce anxiety about screening	1B	4.68
What are the risk factors associated with the development of oral cancer in young people?	Oral cancer has increased in people aged under 45. Tobacco and alcohol use may be involved but clear risk factors are yet to be identified. More work is required to identify risk factors in younger people	2B	4.7
Is human papilloma virus (HPV) a risk factor for oral cancer?	Both oral dysplasia and oral cancer are more commonly associated with HPV than normal mucosa		4.29
Oral Medicine			
Which antifungal agent is the most effective in oropharyngeal candidiasis?	A number of effective agents are available. Because of drug resistance it seems sensible to limit their use to treatment of clinically evident oral candidal infection	1A	4.14
Does systemic penicillin improve pain control in patients with irreversible pulpitis?	Evidence suggests that use of antibiotics does not help in pain relief of irreversible pulpitis	1B	3.72
What are the features of cluster headaches?	The review provides encouraging results and guidelines	2A	4.10

In patients with hypertension does use of epinephrine containing anaesthetic solution or epinephrine impregnated retraction cord produce adverse cardiovascular outcomes?	for appropriate management Epinephrine in dental local anaesthetics has little effect on blood pressure and heart rate in hypertensive patients at doses equivalent to one or two cartridges. There is no reliable evidence concerning the safety of epinephrine in gingival retraction cord in hypertensive patients	2A	4.86
Are people with HIV/AIDS at greater risk of complications from intra-oral dental procedures than HIV-negative patients?	The available evidence suggests that complication from intra-oral procedure for HIV/AIDS patients is low so they may be treated in dental practice as other patients	3A	4.15
Oral Surgery			
Is ropivacaine as effective as bupivacaine?	This small trial showed similar effectiveness during infiltration anaesthesia — more studies are needed in regional block anaesthesia	1B	3.67–68
Is it necessary to stop low-dose aspirin prior to oral surgery?	This trial suggests that it is not necessary to stop low-dose aspirin prior to minor oral surgery	1B	3.66
Do you need to discontinue anticoagulants before routine dental extractions?	The study in a hospital situation showed that there was no need to stop anticoagulation in the International normalised ratio was <4.1	1B	3.100–101
Does the use of a lingual retractor increase the risk of nerve damage during third molar extraction?	Retractor use was associated with an increase in temporary nerve damage, but neither protective nor detrimental with respect to permanent damage	2A	3.107–108
What treatment is best for people with odontogenic keratocysts?	Current evidence suggests that enucleation with application of Carnoy's solution provides best outcome but more research needed		4.53–54
Orthodontics			
What is the most effective adhesive for bonding orthodontic brackets to teeth?	There is no clear evidence to provide an answer at present	1A	4.52
What is the optimal force required for orthodontic tooth movement?	There is currently no evidence identifying the magnitude of an optimum orthodontic force	1A	4.80
Does orthodontic treatment have any consequences for the long-term development of signs and symptoms of temporomandibular disorders?	This paper adds weight to the evidence that orthodontic treatment does not predispose patients to TMD later in life and that most malocclusions, with the exception of lateral displacements on closing and/or unilateral crossbite, are not associated with the development of TMD.	1B	4.82
Is a hydrophilic or conventional primer more effective in orthodontic bonding?	This trial showed increased bracket failure with hydrophilic primer but involved small numbers of patients	1B	3.52
Are there characteristic features of the craniofacial skeleton in patients of children who have orofacial clefting?	The quality of the available data is limited but suggests that there are characteristic features	3A	4.16
Paediatric Dentistry			
In children with pulpally involved primary molars what pulp treatment techniques are effective in retaining the tooth and avoiding long-term sequelae?	No reliable evidence to support the superiority of one particular treatment method.	1A	4.30
In children with high-risk of dental caries is supervised toothbrushing effective in reducing disease?	Targeted supervised toothbrushing with home support can produce significant reduction in caries levels.	2A	4.49–50
Are preformed metal crowns (PMCs) more effective than amalgam restorations in primary molars?	Evidence suggests that PMCs are more effective than amalgam restoration but more research required		3.10
Periodontology			
Is guided tissue regeneration effective in treatment of infra-bony pockets?	Some evidence for increasing attachment loss but factors for success and failure not clear	1A	3.12–13
Is potassium nitrite containing toothpaste effective in reducing dentine hypersensitivity?	No strong evidence to support effectiveness	1A	3.11
In patients with intrabony defects is surgery with enamel matrix derivative (EMD) more effective than other treatments?	Currently the evidence for possible effect of EMD in treatment of intrabony defects is small	1A	4.66
Is the use of grafting biomaterials or biological agents and open flap debridement (OFD) more effective than OFD alone for deep intra-osseous pockets?	Currently there is no evidence to support the use of these graft materials and biological agents for treating periodontal intra-osseous pockets	1A	4.64–65
Do adjunctive systemic antimicrobials improve clinical outcome of scaling and root planing in treatment of periodontitis?	Periodontal treatment may be more effective with adjunctive antimicrobials	1A	4.62
In people with gingivitis and periodontitis are powered toothbrushes more effective than manual ones in reducing bleeding and inflammation?	Powered brushes particularly counter-rotational and oscillation rotating brushes are more effective	1A	4.57
When treating chronic periodontitis, are machine-driven more effective than hand instruments?	There are no obvious clinical differences but ultrasonic/sonic instruments provide a small time saving. More research is needed in particular regarding patient related benefits.	1A	4.56
What is the quality of randomised controlled trials (RCT) in periodontology?	The quality of RCT reporting in periodontology (and probably other dental disciplines) needs to improve	1A	4.3
In patients who have periodontitis, what is the effect of	This study shows a negative effect of smoking on	1B	4.6

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smoking on the response to access flap surgery?	gingival surgery but more studies are required to clarify the real effect		
In patients with moderate to advanced periodontal disease, is scaling plus minocycline microspheres more effective than scaling alone?	This study shows a statistical benefit but further studies would be needed to show a convincing clinical benefit	1B	4.5
In patients having intra-bony periodontal defects treated with enamel matrix proteins, does the use of post surgical antibiotics improve outcome?	No advantage in using systematic antibiotics in this type of surgery had been demonstrated	1B	4.4
In patients undergoing periodontal scaling and root planning, is an anaesthetic gel effective in producing pain relief?	No clear answer yet	1B	4.78
Is subantimicrobial dose doxycycline in conjunction with subgingival scaling and root planning effective in treatment of adult periodontitis?	The trial did not provide a definitive answer	1B	3.14–15
In patients with buccal gingival recession is periodontal plastic surgery effective?	With the exception of free gingival grafts and lateral sliding flaps, most surgical techniques are successful at producing root coverage for Miller's Class I and II defects	2B	4.67
What is the prevalence of root sensitivity after periodontal therapy?	Current best evidence suggest over half of all patients suffer with root sensitivity after periodontal treatment	2B	4.63
Is subgingival debridement clinically effective in people who have chronic periodontitis?	subgingival debridement and plaque control is effective in reducing pocket depth and improving attachment level	2B	4.61
Is periodontitis associated with coronary heart disease, preterm birth and low birth weight?	While studies do show an association there is no evidence to recommend periodontal treatment to reduce coronary heart disease or preterm low birth weight	2C	4.58
Is guided tissue regeneration (GTR) more effective than connective tissue grafting (CTG) in the treatment of gingival recession defects?	There is no clinical advantage in using GTR over CTG in treatment of gingival recession defects	3A	3.103–104
Is it possible to distinguish between chronic and aggressive periodontitis based on presence of particular periodontal pathogens?	At present there is no evidence to support differentiation based on particular pathogenic bacteria		4.60
In patients with periodontal disease are residual probing depth, bleeding on probing and furcation status predictors of further attachment loss?	Residual probing depths may be an indication of further disease progression		4.59
Which anti-infective therapies are effective in peri-implantitis?	Evidence is absent for anti-infective treatment for peri-implantitis so good quality trials are needed		4.78
Preventive Dentistry			
Are fluoride mouth rinses effective in preventing caries?	Fluoride rinses reduce caries. Fluoride rinses are more effective in high caries areas. Background fluoride use has little influence on the preventive effect of fluoride rinses.	1A	4.85
Should dentists provide tobacco cessation advice?	Most practitioners believed that they should offer tobacco cessation advice but thought that patients did not expect it		3.16
In children and adolescents, is brushing with fluoride toothpaste more effective than a non fluoride paste?	Fluoride toothpaste prevents caries and has a greater effect in people with more disease	1A	4.28
Are powered toothbrushes more effective than manual brushes at reducing levels of plaque and gingivitis in people who have normal manual dexterity?	Powered brushes with rotation–oscillation action achieve a modest benefit over manual brushes	1A	4.26
Is a prebrushing mouth rinse an effective adjunct to oral hygiene?	The clinical benefit is limited	1A	4.25
What is the most effective intervention for maintaining health tissue around dental implants?	Little reliable evidence about what is the most reliable evidence. No evidence that powered brushes better than manual but weak evidence to support adjunctive use of Listerine Mouth wash	1A	4.13
Are fluoride gels applications effective at reducing caries in children?	Application of fluoride gels professionally or self-applied are associated with a substantial reduction in caries increment	1A	3.64–65
In children under 16 is fluoride varnish effective in preventing caries?	Fluoride varnish produces a substantial caries inhibiting effect in the deciduous and permanent teeth of children	1A	3.105–106
In people with primary root caries, is 5000 ppm fluoride dentifrice more effective than 1100 ppm dentifrice in the reversal of lesions?	The higher concentration had a greater effect but this is a single study of only 6 months duration	1B	4.9
Does chewing xylitol gum result in suppression of mutans streptococci?	Chewing xylitol gum by mothers with high mutans streptococci produces long-term suppression in their children. Any clear clinical impact of this is yet to be demonstrated	1B	4.8
In patients with orthodontic appliances are powered toothbrushes more effective than manual brushes?	Some types of powered brushes show a modest benefit	1B	4.27
In susceptible teenagers is chlorhexidine varnish more effective than fluoride varnish in preventing caries?	This study does not provide evidence that chlorhexidine varnish offers any advantage over fluoride varnish	1B	4.12
Is chlorhexidine varnish effective in reducing caries in adults with reduced salivary flow?	Chlorhexidine varnish has a positive effect but further studies needed	1B	3.53
Does water fluoridation reduce incidence of caries?	Fluoridation reduces caries but quality of evidence not	3A	3.39

Is fluoridation associated with other negative effects?	high so it is difficult to give a good estimate of effect The available evidence is insufficient to reach conclusions		3.49
Is fluoridation associated with cancer?	The available evidence showed no association but the evidence was of low quality		3.47–48
Are there differences between natural and artificial fluoridation?	The available evidence is insufficient to reach conclusions		3.50
Is fluoridation associated with bone fractures?	The available evidence showed no association but the evidence was of low quality		3.45–46
Is fluoridation associated with fluorosis?	There was an association between fluorosis and fluoridation and a dose–response was identified but the quality of the studies was low		3.43–44
Does fluoridation result in a reduction of caries across social groups bringing equity	Some evidence of a beneficial effect but quality of evidence and number of studies small		3.41–42
Does water fluoridation have an effect over and above that offered by alternative interventions and strategies?	Evidence not of high quality but suggests an effect over and above other sources of fluoride (eg toothpaste)		3.40
Radiography			
Can the use of a computer-assisted learning programme improve the ability of dental students to detect caries from bitewing radiographs?	A CAL programme can help to reduce caries detection variability	1B	4.77
Restorative Dentistry			
When patients require posterior restorations are ceramic restorations more effective than other restorative materials?	Little evidence to support any difference in clinical performance of ceramic restorations over other posterior restorations	1A	4.31
Are dental appliances effective in the treatment of obstructive sleep apnoea?	Dental appliances may be a useful adjunct in the treatment of obstructive sleep apnoea	1B	3.51
Which material provided the best clinical properties for temporary restorations?	No difference were noted between material in this small study	1B	3.102
Which filling material last longest?	Amalgam had the best clinical performance but the quality of the included studies in the review was mediocre and there was little direct comparison of materials	3A	3.96–99
Temporomandibular Disorders			
Is occlusal adjustment effective for the treatment and prevention of temporomandibular joint disorders?	At present there is no evidence to support occlusal treatment in treatment or prevention of temporomandibular joint disorders	1A	4.32
Is arthrocentesis with sodium hyaluronate more effective than arthrocentesis alone in people with temporomandibular derangements	Patients in both groups benefited from treatment with suggestion that those having sodium hyaluronate did better but trial is with small number of patients.	1B	3.70–71
Is minimal treatment effective in people who have anterior disk displacement?	Results suggest that patients will normally improve with minimal treatment	1B	3.69
What are the long term predictors of signs and symptoms of temporomandibular disorders?	Parafunction, tooth wear, TMJ clicking and deep overbite are possible predictors, but their predictive value require further study	2B	4.55

1. Lawrence A, Richards D. Questions answered in EBD Volumes 1 and 2. EBD 2002; 3:27–29.
 2. Richards D. Not all evidence is created equal — so what is good evidence. EBD 2003; 4:17–18.