RCPCH GUIDELINE APPRAISAL

Scottish Intercollegiate Guideline Network (SIGN)

Preventing Dental Caries in Children at High Caries Risk (number 47)

The original guideline is NOT the work of the Royal College of Paediatrics and Child Health. This document represents the College's appraisal of the authors' completed guidelines: only grade A & B recommendations have been appraised. Paediatricians should either update or develop their local guidelines using the SIGN guideline (number 47).

GUIDELINE APPRAISAL

KEY POINTS

- This guideline is primarily directed at dental services, but includes useful information for non-dental health professionals relevant to paediatricians.
- The scope is restricted to preventing caries in the permanent teeth of children aged 6 to 16 years presenting for dental care. It therefore does not include the fluoridation of water supplies.
- There was no involvement of parents or children in the guideline development, as would be current SIGN policy.

Original grade A and B Recommendations	RCPCH Grade
Primary Prevention of Dental Caries	
• An explicit risk assessment should be made for each child presenting for dental care	B
• The following factors should be considered when assessing caries risk: • Clinical evidence of previous disease • Dietary habits, especially frequency of sugary food and drink consumption • Social history, especially socio-economic status • Use of fluoride • Plaque control • Saliva • Medical history	B
Behaviour Modification in High Caries Risk Children	
• Dental health education advice should be provided to individual patients at the chairside as this intervention has been shown to be beneficial. (**Original statement grade A**)	B
• Children should brush their teeth twice a day using toothpaste containing at least 1000ppm fluoride. They should spit the toothpaste out and should not rinse out with water. (**Original statement grade A**)	B
• Dietary advice to patients should encourage the use of non-sugar sweeteners, in particular xylitol, in food and drink.	B
• Patients should be encouraged to use sugar-free chewing gum, particularly containing xylitol, when this is acceptable.	B
• Clinicians should prescribe sugar-free medicines whenever possible and should recommend the use of sugar-free forms of non-prescription medicines.	B
Tooth Protection in Children at High Caries Risk	
• Sealants should be applied and maintained in the tooth pits/fissures of high caries-risk children. (**Original statement grade A**)	B
• The condition of sealants should be reviewed at each check up.	B
• Glass ionomer sealants should only be used when resin sealants are unsuitable	B
• Fluoride tablets (1mg F daily) for daily sucking should be considered for children at high risk of decay.	B
• A fluoride varnish (e.g. Duraphat) may be applied every four to six months to the teeth of high caries risk children.	B
• Chlorhexidine varnish should be considered as an option for preventing caries.	B
Secondary and Tertiary Prevention	
• Bitewing radiographs are recommended as an essential adjunct to a patient's first clinical examination. (**Original statement grade A**)	B
• The frequency of further radiographic examination should be determined by an assessment of the patient's caries risk.	B
• If only part of the fissure system is involved in small to moderate dentine lesions with limited extension, the treatment of choice is a composite sealant restoration. (**Original statement grade A**)	B

Original grade A and B Recommendations	RCPCH Grade
• If caries extends clinically into dentine, then carious dentine should be removed and the tooth restored. (**Original statement grade A**)	B
• Preventive care, e.g. topical fluoride varnish, rather than operative care is recommended when approximal caries is confined (radiographically or visually) to enamel. (**Original statement grade A**)	B
• In an approximal lesion requiring restoration, a conventional Class II restoration should be placed in preference to a tunnel preparation.	B
• The diagnosis of secondary caries is extremely difficult and clear evidence of involvement of active disease should be ascertained before replacing a restoration.	B

The full guideline may be obtained at the following website: **http://www.sign.ac.uk**. It should be noted that the guideline was published in 2000. It was not possible to repeat the literature search, so the College's appraisal should be considered in the light of this. The College's appraisal is not valid beyond June 2004, and new evidence since 2000 could invalidate these recommendations.

LEVELS OF EVIDENCE/DERIVATION OF GRADES OF RECOMMENDATIONS

The definition of levels of evidence and grading of recommendations used throughout are those derived from the US Agency for Health Care Policy and Research (see below). It should be noted that this system does not take account of the quality or generalisability of RCT's or meta-analyses, and has now been updated by SIGN.

Levels of evidence

Ia	Meta-analysis of RCTs
Ib	At least one RCT
IIa	At least one well-designed controlled study without randomisation
IIb	At least one other type of well-designed quasi-experimental study
III	Well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.
IV	Expert committee reports or opinions and/or clinical experiences of respected authorities

Grades of recommendation

A	At least one RCT as part of a body of literature of overall good quality and consistency addressing the specific recommendation. (evidence levels Ia, Ib)
B	Availability of well conducted clinical studies but no randomised clinical trials on the topic of the recommendation. (evidence levels IIa, IIb, III)
C	Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality. (evidence level IV)

Please note that those two recommendations ORIGINALLY ascribed a Grade C have not been appraised by the College.

OTHER PUBLICATIONS ON RELATED TOPICS

There are several reviews on preventing and treating dental caries in children and adolescents in the Cochrane Library

SUMMARY OF AGREE FINDINGS

The methods used to identify the evidence
There was no search strategy given. The Cochrane Library, MEDLINE and HEALTHSTAR were performed.
Which professionals were involved
The guideline steering group included dentists and general practitioners.
Involvement of parents &/or children
There was no involvement of children or parents
Consensus method used
No formal consensus methodology was used
Clinical audit:
The guideline included suggestions for clinical audit for dental practitioners

Overview

Guidelines are 'systematically developed statements to assist decisions about appropriate care for specific clinical circumstances' based on systematic reviews of the research literature. Guidelines are not intended to restrict clinical freedom, but practitioners are expected to use the recommendations as a basis for their practice. Local resources and the circumstances and preferences of individual patients will need to be taken into account. Where possible, recommendations are based on, and explicitly linked to, the evidence that supports them. Areas lacking evidence are highlighted and may form a basis for future research

The Role of the Royal College of Paediatrics and Child Health

In order to raise awareness about the existence of the original guideline and to ensure its relevance for children's health, the College (through its Quality of Practice Committee) appraised the original guideline against the 'AGREE' checklist laid out in its 'standards' document. Having established the quality of the guideline's methodology in this way, the College's Clinical Effectiveness Coordinator examined the recommendations presented in the guideline document in the context of the original research papers from which they were derived. The findings are presented here. Where discrepancies between these findings and the originals exist, both recommendations have been included. The shaded boxes indicate these areas of discrepancy.

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