

## Guideline topic: Prevention of Dental Caries

### General comments

Update of SIGN guideline 47 on preventing dental caries in children at high caries risk and SIGN guideline 83 on prevention and management of dental decay in the pre-school child.

Remit: to provide recommendations based on current evidence for best practice in dental interventions to prevent caries in children aged 0-18 years carried out by dental care teams within dental practices in Scotland.

### Search coverage

#### Patient searches

The patient search was conducted using the search strategy outlined below in conjunction with the patient search filter.

Databases covered: **Medline, Embase, CINAHL,**

Dates covered: **2006-2011 (March)**

Total hits: *Medline , Embase , CINAHL , (total )*: 2019

Sifted result: 39

#### Patient Medline search strategy

1. exp Tooth Demineralization/
2. ((tooth or teeth) and deminerali?ation).tw.
3. ((tooth or teeth) and hypominerali?ation).tw.
4. (cariou or caries).tw.
5. (cariology or cariogenesis or cariogenic).tw.
6. exp Cariogenic Agents/
7. exp Cariostatic Agents/
8. exp Diet, Cariogenic/
9. ((teeth or tooth or dental or dentin or enamel) adj3 cavit\*).tw.
10. ((teeth or tooth or dental or dentin or enamel or active or recurrent or rampant) adj3 decay).tw.
11. ((teeth or tooth or dental) adj3 fissure\*).tw.
12. ((teeth or tooth) adj3 filled).tw.
13. oral fissure\*.tw.
14. white spot\*.tw.
15. ((noncavitated or non-cavitated) adj lesion\*).tw.
16. exp Tooth Remineralization/
17. ((teeth or tooth) and reminerali?ation).tw.
18. (cariesfree or caries-free).tw.
19. or/1-18
20. limit 19 to (infant or child or preschool child < 1 to 6 years> or school child < 7 to 12 years> or adolescent < 13 to 17 years>)
21. (neonate or infant or baby or babies or preschool or pre-school or nursery or child\* or adolescent\* or teenager\*).tw.
22. newborn/
23. infant/
24. exp BABY/
25. child/
26. adolescent/
27. or/21-26
28. 19 and 27
29. 20 or 28

<b>Systematic reviews</b>		
Databases covered: <b>Medline, Embase, CINAHL, Cochrane</b>	Dates covered: 2000-2011(August)	
Total hits: 257	Sifted result: 89	Papers requested: 63
<b>RCTs</b>		
Databases covered: <b>Medline, Embase, CINAHL, PsycINFO, Cochrane</b>	Dates covered: (with variations depending on topic; see Scope of Searches below)	
<b>Observational studies/ Searches without filter</b>		
Databases covered: <b>Medline, Embase, CINAHL, PsycINFO</b>	Dates covered: (with variations depending on topic; see Scope of Searches below)	
<b>Search strategies</b>		
<p>The following are listings of the main Medline strategies used for this guideline. All conventions and symbols are from the Ovid implementation of Medline. Strategies used in other databases were substantially the same, though different terminology may have been used to take account of different thesauri used in non-Medline databases. Search filters were added to identify studies of a particular type (systematic review, RCT etc.) Listings of the search filters used by SIGN can be found on the SIGN Web site.</p>		

<p><b>Generic Stem</b></p> <ol style="list-style-type: none"> <li>1. exp Dental Caries/</li> <li>2. Dental Caries Susceptibility/</li> <li>3. Tooth Demineralization/</li> <li>4. Tooth Remineralization/</li> <li>5. Cariogenic Agents/</li> <li>6. exp Cariostatic Agents/</li> <li>7. Diet, Cariogenic/</li> <li>8. (caries or carious).tw.</li> <li>9. (cariology or cariogenesis or cariogenic).tw.</li> <li>10. ((teeth or tooth or dental or dentin or enamel) adj3 cavit*).tw.</li> <li>11. ((teeth or tooth or dental or dentin or enamel or active or recurrent or rampant) adj3 decay).tw.</li> <li>12. ((teeth or tooth or dental) adj3 fissure*).tw.</li> <li>13. ((teeth or tooth) adj3 filled).tw.</li> <li>14. (oral adj3 (cavit* or decay or fissure*)).tw.</li> <li>15. white spot*.tw.</li> <li>16. ((tooth or teeth) and deminerali?ation).tw.</li> <li>17. ((teeth or tooth) and reminerali?ation).tw.</li> </ol>
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18. (cariesfree or caries-free).tw.
19. or/1-18
20. limit 19 to (humans and ("all infant (birth to 23 months)" or "all child (0 to 18 years)"))
21. adolescent/ or exp child/ or exp infant/ or infant, newborn/
22. (baby or babies or newborn or neonate or infant or preschool or pre-school or child\* or nursery or adolescent\* or teen\*).tw.
23. 21 or 22
24. 19 and 23
25. 20 or 24

**Scope of searches  
(REV, RCT, and no filter searches (NOF))**

KQ	Type of studies	Date range	Initial recall	Sifted result
2	RCT	2003-2012	1071	25
3	NOF	2005-2011	184	25
4	NOF	2003-2011	151	14
5	NOF	2006-2011	343	27
6	NOF	2006-2011	411	9
7	NOF	2005-2011	266	21
8 (tooth mousse)	NOF	2002-2011	41	7
10	NOF	2002-2011	841	42
10a	SR	2000-2012	63	3
11	RCT	2005-2011	381	22

**Medline Search strategies used for specific key questions:**

(all search strategies below were combined with the Medline Generic Stem strategy)

**KQ 2 (specific fluoride compositions for toothbrushing)**

1. exp Dentifrices/
2. toothpaste\*.tw.
3. tooth-paste\*.tw.
4. tooth paste\*.tw.
5. exp Sodium Fluoride/
6. exp Fluorides/
7. sodium fluoride\*.tw.
8. sodium monofluorophosphate\*.tw.
9. stannous fluoride\*.tw.
10. (NAF or MFP or SnF2).tw.
11. or/1-10

**KQ 3 (powered versus manual toothbrushes)**

1. exp Toothbrushing/

2. toothbrush\$.tw.
3. tooth brush\$.tw.
4. ((tooth or teeth) adj3 clean\$).tw.
5. or/1-4
6. (manual\$ or conventional\$ or handbrush\$).tw.
7. (power\$ or mechanical\$ or electric\$ or ultrasonic\$ or sonic\$ or automatic\$).tw.
8. motor driven.tw.
9. battery operated.tw.
10. or/7-9
11. 5 and 6 and 10

#### **KQ 4 (supervised brushing)**

1. exp Toothbrushing/
2. toothbrush\$.tw.
3. tooth brush\$.tw.
4. ((tooth or teeth) adj3 clean\$).tw.
5. or/1-4
6. supervis\$.tw.
7. 5 and 6

#### **KQ 5 (frequency and duration of toothbrushing)**

1. (toothbrushing adj3 frequency).tw.
2. (toothbrushing adj3 habit\*).tw.
3. (toothbrushing adj3 behavior\*r\*).tw.
4. (toothbrushing adj3 routine\*).tw.
5. (toothbrushing adj3 duration\*).tw.
6. (toothbrushing adj3 (time or timing)).tw.
7. (brush\* adj3 (frequency or habit\* or behavior\*r\* or routine\* or duration\* or time or timing)).tw.
8. or/1-7
9. exp Toothbrushing/
10. toothbrush\$.tw.
11. tooth brush\$.tw.
12. ((tooth or teeth) adj3 clean\$).tw.
13. brushing.tw.
14. or/9-13
15. 8 and 14

#### **KQ 6 (toothbrush replacement)**

1. (toothbrush\* adj3 (old or new or used or age or wear or worn)).tw.
2. (brush\* adj3 (old or new or used or age or wear or worn)).tw.
3. (toothbrush\* adj3 (replace\* or renew\*)).tw.
4. (brush\* adj3 (replace\* or renew\*)).tw.
5. Time Factors/

6. exp Equipment Failure/
7. exp Equipment Reuse/
8. exp Toothbrushing/is [Instrumentation]
9. or/5-7
10. 8 and 9
11. or/1-4
12. 10 or 11

**KQ 7 (cleaning methods other than toothbrushes)**

1. exp Dental Devices, Home Care/
2. floss\*.tw.
3. (interdental adj3 brush\*).tw.
4. (toothpick\* or tooth pick\*).tw.
5. (woodstick\* or wood stick\*).tw.
6. or/1-5

**KQ 8 (Tooth mousse)**

1. ((tooth or teeth) adj5 mousse\*).tw.

**KQ 10 (risk assessment tools for increased referral)**

1. exp Risk Assessment/
2. exp Needs Assessment/
3. Mass Screening/
4. dental screening.tw.
5. (risk adj3 assessment).tw.
6. or/1-5

**KQ10a (effectiveness of risk assessment tools)**

1. exp Risk Assessment/
2. (risk adj3 assessment\*).tw.
3. cariogram\*.tw.
4. cambra.tw.
5. dcram.tw.
6. (caries adj3 assessment tool\*).tw.
7. CRA.tw.
8. or/1-7

**KQ 11 (dental brief interventions in a practice setting)**

1. exp Health Education, Dental/
2. dental health education.tw.
3. dental health promotion.tw.
4. oral health education.tw.
5. oral health promotion.tw.

6. or/1-5
7. exp Oral Health/
8. exp Oral Hygiene/
9. or/7-8
10. exp Patient Education as Topic/
11. (advice or counsel\* or education or promot\*).tw.
12. or/10-11
13. 9 and 12
14. 6 or 13