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- delivery of preventive care based on caries risk
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‘Supporting the dental team to provide quality patient care’
Prevention and Management of Dental Caries in Children
Guidance in Brief

April 2010
Overarching Principles
Refer to Section 2 of the full guidance

‘Prevention and Management of Dental Caries in Children’ is designed to assist and support primary care practitioners and their teams in improving and maintaining the oral health of their child patients from birth up to the age of 16 years.

The aims when providing dental care for children are:

- to keep the primary and permanent dentition free from disease;
- to reduce the risk of the child experiencing pain or sepsis or acquiring treatment-induced dental anxiety if dental caries does occur;
- for the child to grow up feeling positive about their oral health and with the skills and motivation to maintain it.

To achieve these aims, the priorities for the dental team are:

- to encourage the child’s parent/carer to take responsibility for their child’s oral health, implement preventive advice at home and meet their obligations to bring their child for dental care;
- to apply the full range of preventive measures to the highest standard possible;
- to focus on prevention of caries in the permanent dentition before management of caries in the primary dentition;
- if caries in the permanent dentition does occur, to diagnose it early, and manage it appropriately;
- to manage caries in the primary dentition using an appropriate technique that maximises the chance of the tooth exfoliating without causing pain or sepsis, while minimising the risk of treatment-induced anxiety;
- to identify as early as possible those children where there is doubt or evidence about a parent/carer’s ability to comply with dental health preventive advice, support or treatment uptake, and to contact and work collaboratively with other agencies, especially the child’s named Health Visitor, School Nurse or General Medical Practitioner.
In practice, the prevention and management of dental caries in children comprises several stages as illustrated below. Each stage of delivering care is outlined in this summary of the guidance. For a full appreciation of the recommendations and further advice on following them, refer to the sections within the full guidance that are cited within this Guidance in Brief. A Care Checklist is provided on page 12.

The full guidance can be downloaded at www.scottishdental.org/cep.
Assessing the Child

Refer to Section 3 of the full guidance

Gain rapport with both the child and the parent/carer. Parent/carers are fundamental to improving the child’s oral health.

Communicate effectively with the child and the parent/carer, remembering not to ‘talk over’ the child.

Parent/Carer Motivation and Ability to Take Responsibility

Assess the ability and motivation of the parent/carer, and the child if old enough, to take responsibility for the child’s oral health.

Encourage parent/carers to take responsibility for their child’s oral health and caries prevention and reinforce this throughout your care of the child.

Contact the child’s Health Visitor or School Nurse as early as possible if multidisciplinary support is required.

Consider whether dental neglect is a concern, and take appropriate action if necessary (refer to Section 13 of the full guidance).

Taking a History

Take a thorough medical, dental and social history that includes asking about current brushing practice, dietary habits and previous experience of any treatment.

Use the information gathered to inform your assessment of the child and/or parent/carer’s attitude towards oral health and their ability and motivation to take responsibility for it.
Assessing the Child

Clinical Assessment

- Assess the child’s plaque levels and discuss this with the child and the parent/carer.
- Carry out a meticulous clinical examination for the presence of caries. Include radiographic examination at the appropriate intervals unless there is a valid reason not to; record this in the patient’s notes.
- Assess for pain and signs and symptoms of dental sepsis (e.g. swelling, sinus, non-physiological mobility); if identified, ensure it is managed.
- For the primary dentition, assess the risk of any carious lesions causing pain or sepsis, prior to exfoliation, before deciding on a management option.

Caries Risk Assessment

- Assess if the child is at increased caries risk (patient history, previous caries experience, resident in an area of deprivation, healthcare worker’s opinion) and use this to inform the frequency of review radiographs, preventive care provided and the recall interval.
Defining Needs and Developing a Personal Care Plan
Refer to Section 4 of the full guidance

- Agree a personal care plan and the visits required with the parent/carer.
- If required, contact the child’s Health Visitor to arrange home and community support for preventive interventions.
- Provide care in the following order: manage pain (if present), provide caries prevention for all children, manage caries/asymptomatic sepsis (if present).
- Prioritise maintaining the first and second permanent molars caries-free over managing caries in the primary dentition.

Managing Pain (if present)
Refer to Section 5 of the full guidance

- Diagnose pain (reversible pulpitis, irreversible pulpitis or dental abscess) and manage it promptly.
- Avoid dental extractions on a child’s first visit if at all possible.
Consider action planning to improve compliance with preventive advice.

**Standard Prevention for all children**

- **Give toothbrushing advice at least once a year:**
  - Brush at least twice daily, in the morning and last thing at night,
  - Use the correct amount of a toothpaste with age-appropriate fluoride concentration:
    - Under 3 years old: use a small smear of paste containing not less than 1000 ppm fluoride
    - 3–6 years inclusive: use a pea-sized amount of paste containing not less than 1000 ppm fluoride
    - 7 years old or over: use paste containing 1350–1500 ppm fluoride
  - Spit, don’t rinse.
  - Help children under 7 years old and continue to supervise older children until confident in their brushing habits.

- **In the early stages of providing care give hands-on brushing instruction.**

- **Give dietary advice at least once a year:**
  - Restrict foods and drinks containing sugar to meal times.
  - Drink only water or milk between meals.
  - Snack on sugar free snacks (e.g. fresh fruit, carrots, peppers, breadsticks, occasionally a little cheese).
  - Do not eat or drink after brushing at night.
  - Be aware of hidden sugars in some foods and the acid content of drinks.

- **Apply sodium fluoride varnish (5%) twice a year to children over 2 years of age** (see note below).

**Note** A child who has been hospitalised due to severe asthma or allergy or who is allergic to sticking plaster may be at risk of an allergic reaction to varnishes containing colophony. In these cases, use an alternative colophony-free varnish or suggest use of other topical fluoride preparations.
Caries Prevention

**Enhanced Prevention for children at increased risk of caries**

- **Provide Standard Prevention at each recall visit** (toothbrushing and diet advice and apply fluoride varnish as above).
- **Give hands-on brushing instruction at least once a year.**
- Consider:
  - recommending 1350–1500 ppm fluoride toothpaste for children over 3 years old
  - the use of toothbrushing charts and disclosing tablets, and providing free toothpaste and a free toothbrush
  - encouraging motivated parents/carers to floss the child’s teeth at the D/E/6 contacts immediately after brushing 2 or 3 times per week, particularly if enamel-only caries is present on the mesial of 6s
  - prescribing 2800 ppm fluoride toothpaste for children over 10 years old
- Consider the use of toothbrushing charts and food and drink diaries.
- **Apply sodium fluoride varnish (5%) an additional 1-2 times per year to children over 2 years of age** unless provided via Childsmile in nursery or school (see note).
- **Place resin fissure sealants in susceptible pits and fissures.**
  - If necessary, consider using glass ionomer cement as a temporary sealant.
  - If unable to provide fissure sealants because of the child being pre-cooperative or learning disabled, then refer the child to have this treatment provided.
- **Check existing sealants** visually for wear and physically with a probe for integrity/leakage at every recall visit.
- **‘Top up’ worn sealants** if the child is still at increased risk of caries.
- Consider collaboration with the Health Visitor or School Nurse to provide community/home support for preventive interventions.
Management of Caries in Permanent Molars
Refer to Sections 7 & 9 of the full guidance

For carious occlusal pits and fissures on first and second permanent molars

If fissure caries is suspected, only restore if there is either:
- microcavitation
  or
- shadowing visible under the enamel adjacent to the fissure after cleaning and drying the tooth
  or
- dentinal caries clearly visible on a bitewing radiograph

In any of these cases, remove caries, place a restoration, and seal the remaining fissures. Otherwise place a fissure sealant alone, and review the tooth at every recall visit.

For carious approximal surfaces on first and second permanent molars

Make it a priority to identify and arrest early enamel-only lesions on the mesial surface of 6s by:
- applying fluoride varnish, and monitoring for progression with bitewing radiographs;
- ensuring parent/carers are aware of the potential impact on their child’s oral health, and encouraging them to floss or use floss wands on the 6/E contact 2–3 times a week;
- if the distal of the E is carious, considering managing the E with either a restoration, a Hall crown or slice preparation (taking care to avoid iatrogenic damage to the 6), or even extraction of the E.

For first permanent molars of poor prognosis

At around the age of 9 years, make an assessment of the likely prognosis of any 6s affected by caries. If prognosis is poor, consider planned loss.
Management of Caries in Primary Teeth

Refer to Sections 8 & 9 of the full guidance

Available management strategies include:

- complete caries removal
- partial caries removal
- no caries removal, seal with restoration
- no caries removal, provide prevention-alone or after first making the lesion self-cleansing
- extraction or review, with extraction only if pain or sepsis develops

Choose management options for carious primary teeth that balance a reduction in the risk of pain or sepsis from the tooth in the future with the child’s ability to accept treatment now.

Avoid operative interventions involving local anaesthetic until the child can cope.

Do not use conventional glass ionomer cements for Class II restorations.

Manage a primary tooth that is associated with sepsis (signs or symptoms of abscess, sinus, inter-radicular radiolucency, non-physiological mobility) with either a pulp therapy or an extraction; **do not leave sepsis untreated**.

Closely monitor lesions managed with prevention only.

**Do not leave active caries in primary teeth unmanaged.**
Helping Children Accept Treatment and Referral
Refer to Sections 10 & 11 of the full guidance

- Use good behavioural management techniques to help children accept treatment. If this is unsuccessful, ensure that the child is referred to the appropriate service to receive care.
- Ensure that the child’s dental pain is relieved before referring.
- Include all relevant information in the referral letter.

Recall
Refer to Section 12 of the full guidance

- Assign a recall interval that is based on caries risk and is specific to the oral health needs of the child.
- If caries is not being effectively controlled, consider the need for additional multidisciplinary support.
Full Guidance

Supporting tools and a range of other information to assist the dental team deliver appropriate care are provided in the full guidance. These include:

- illustrated step-by-step advice on individual clinical techniques

- flowcharts for decision making about prevention and management options

- Care Checklist – a reminder of the essential elements of the assessment, prevention and the management of caries in children (also included in this summary)

- Prevention Log – for keeping a record of preventive interventions for an individual child

- Caries Prevention Reminder by Age – a summary of preventive interventions appropriate for children year-by-year from birth to 16 years of age

- sources of further information and contact details

The full guidance can be downloaded at www.scottishdental.org/cep.
Before placing a child on recall, ask yourself the following:

As part of your assessment of the child have you:

- encouraged the parent/carer to take responsibility for the oral health of their child, particularly with regard to brushing, and regular attendance?
- arranged multidisciplinary support via a Health Visitor or School Nurse, if required?
- checked all existing sealants:
  - visually, for wear
  - physically with a probe, for integrity/leakage
  - and “topped up” if necessary?
- checked radiographically the occlusal and approximal surfaces of the permanent molars for early caries, or recorded a sound reason not to?
- checked clinically and radiographically for the presence of sepsis associated with any carious primary teeth?
- checked whether any previously selected prevention-alone caries management strategy is effective (caries arresting, good plaque control on surface of lesion) and, if not, chosen an alternative strategy?
- carried out and recorded a caries risk assessment?
- considered the possibility of dental neglect and taken appropriate action if suspected?
As part of your preventive care have you:

- checked that the child and the parent/carer understand the critical importance of thorough toothbrushing and these key messages?
  - brush twice a day;
  - use an appropriate amount of ≥1000 ppm fluoride toothpaste;
  - ‘spit, don’t rinse’.
- given dietary advice?
- applied sodium fluoride varnish (5%), or recorded a valid reason not to?
- fissure sealed all susceptible pits and fissures if the child is at increased caries risk, or recorded a valid reason not to?
- agreed an action plan with the child and parent/carer to improve compliance with preventive advice?

As part of your caries management have you:

- managed caries in the pits or fissures of 6s and 7s appropriately?
- managed enamel-only approximal caries in 6s and 7s effectively?
- considered the prognosis of any carious 6s and, if this is poor, considered planned loss?
- selected an appropriate management option for any active carious lesions in the primary dentition that you assess as likely to cause the child pain or sepsis before exfoliation?
- used appropriate behavioural management techniques to help the child to accept treatment or referred the child who is unable to accept treatment despite behavioural management techniques?
Notes
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