Dietary advice and dental erosion
The evidence summary is based on the original summary published in the BDJ(1) (March 2010). It focuses on how dietary advice can be effectively delivered in general dental practice to prevent dental erosion. It does not include detailed descriptions of the studies cited nor does it include information that was not presented in the literature.

The Curious about website encourages dental professionals to raise issues where a review of the available evidence would provide a useful resource for other dental professionals. Where there is a lack of evidence, the topic is considered for research and an award is made available.

These activities are sponsored by the Shirley Glasstone Hughes Fund, a restricted fund within the BDA Trust Fund.
Key finding

- No evidence was found on the effectiveness of different strategies to apply dietary advice for the prevention of dental erosion.

Review question

This evidence summary was prepared in response to the following question: How can dietary advice to prevent dental erosion be effectively delivered in UK general dental practice?

Key terms

Dietary advice:
The improvement/maintenance of individual health status by adjusting the quantity or quality of food intake.

Dental erosion:
Progressive loss of the hard substance of a tooth by chemical processes that do not involve bacterial action.

Prevention:
Primary – specific practices for the prevention of disease in susceptible individuals/populations.
Secondary – prevention of recurrences/exacerbations of a disease already diagnosed.

The case for action

Over 50 per cent of children and adolescents have tooth surface loss due to dental erosion. For many years erosion was of little interest to dentists but now the condition is on the increase especially in younger age groups. The main explanation for this is changes in nutritional habits and lifestyle. Erosion is not limited to younger populations and with the increasing retention of teeth by the older generations dental erosion is recognised as a major cause of tooth damage.

Biological, behavioural and chemical factors all contribute to erosion and the irreversible damage it causes. Erosion is caused by non-bacterial acid in the mouth - intrinsic sources include vomiting, regurgitation, gastro-oesophageal reflux or rumination while extrinsic sources are most commonly the dietary acids found in beverages. Lifestyle choices, such as frequent dietary acid consumption, the environment and in some cases medication and occupational factors, can also increase the risk of dental erosion.

Steps to prevent or reduce the risk of dental erosion include using fluoride toothpastes or rinses and modifying diet and oral health practice.

The evidence

No studies were found on effectively delivering dietary advice for the prevention of dental erosion in general dental practice. Given the apparently increasing prevalence of the disease in industrialised countries, this appears to be a priority area for future primary research.

Guidance

Guidelines from the Royal College of Surgeons are available. These aim to assist in the diagnosis, prevention and management of erosion in adults, adolescents and children and cover preventative dietary messages that can be given to patients. Dietary messages from these guidelines and those from a recent review are summarised in Figure 1.
Methods

Search strategy
The following resources were searched:

- Ovid MEDLINE
- Centre for Evidence Based Dentistry
- Cochrane Oral Health Group
- Centre for Reviews and Dissemination

Search terms for Ovid MEDLINE were: diet, diet therapy, tooth erosion and prevention. Grey literature was also searched.

Original searches are current as of November 2009. Two reviews were subsequently identified on one-to-one dietary interventions undertaken in a dental setting to change dietary behavior and factors that influence the provision of dietary advice by dentists (respectively) but these did not include erosion.\(^{[11,16]}\) Searches were repeated in April 2013 and February 2015.

Studies were included if:

- They investigated dietary advice given solely for preventing dental erosion
- the prevention of dental erosion was a stated aim in an overall broader campaign to improve/protect oral/dental health using dietary advice.

Results
No publications were found.

References
5. Gambon D L, Brand H S, Veerman E C. Dental erosion in the 21st century: what is happening to nutritional

Discourage consumption of acidic drinks and foods
Discourage addition of acidic drinks to infant feeding bottles
Discourage consumption of acidic sweets especially in between meals
Promote chilling of drinks, consume in one go, and limit soft drinks to mealtimes
Promote consumption of water and nutritious drinks e.g. milk. Promote fresh fruit as part of a healthy diet
Promote use of neutralising food e.g. cheese, after having acidic food/drink

Figure 1 Dietary recommendations in dental practice in relation to dental erosion


