Nutrition, health and schoolchildren
Oral health

The number of children with decayed, missing or filled teeth has fallen significantly since the 1980s. The introduction of water fluoridation in some parts of the country, the increased use of fluoridated toothpaste and generally better oral hygiene have made a major contribution to this.

More than three quarters of children in the UK report brushing their teeth at least twice a day. Generally, more frequent brushing is associated with better overall oral health and less plaque and gingivitis.

**Dental caries**

Dental caries arises when several factors occur simultaneously, in particular a susceptible tooth surface, acid producing bacteria present in the mouth, and a source of carbohydrate (e.g. sugars and starches) that can be broken down by bacteria. The most important way to protect against dental caries is regular (twice daily) brushing of teeth with a fluoride containing toothpaste. Fluoride strengthens the tooth enamel, providing resistance to decay.

Sugars and other fermentable carbohydrates are broken down by bacteria on the tooth surface, located in dental plaque. Acid is produced which can progressively destroy the teeth, particularly if the pH in the mouth remains low due to frequent sugar or other carbohydrate consumption.

The main dietary factors linked to dental decay are frequency and amount of sugars consumed. Limiting sugars containing foods and drinks as well as snack food containing starch (e.g. crisps) to meal times is one way to reduce the risk of caries, as saliva produced when chewing restores a healthy pH in the mouth. Sticky foods such as toffees or dried fruit may stick to teeth for a longer time and particles may get stuck between teeth, so can therefore be more detrimental to teeth as they increase the length of time that teeth are exposed to acid produced by bacteria. Chewing sugar free gum, which promotes saliva production, has been found to reduce dental caries.

**Dental erosion**

Dental erosion is the loss of tooth enamel and, unlike dental caries, is not caused by bacteria but by acids found in food and drinks such as fresh fruit, fruit juices and soft drinks. Frequent and prolonged exposure to acidic foods and drinks can lead to loss or softening of the enamel or dentine, making it more prone to wearing away.
Softened enamel can re-harden once the pH in the mouth returns to normal, but lost tooth enamel cannot be replaced.

Tooth brushing should be avoided for at least an hour after exposure to acidic foods and drinks. Children should be encouraged not to swill fluids around the mouth as this increases contact of acids in drinks with teeth. Using a straw can help to minimise contact of acidic drinks with the teeth.

For more information on the sources used in this text, please contact postbox@nutrition.org.uk

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