International Sweeteners Association

FACTSHEET

Dental and Oral Health

with Low/no Calorie Sweeteners

Good oral health is defined as the ability to speak, smile, taste, touch, chew, swallow and convey a range of emotions with confidence and without pain, discomfort and disease.[1]

Oral disease affecting teeth and gums can cause pain, change what it's possible to eat and affect personal relationships and self-confidence reducing overall quality of life and well-being. The good news is that dental disease such as tooth decay is largely preventable by adopting a healthy diet and by brushing twice daily and flossing.[2]

The purpose of cleaning teeth is to prevent decay or dental caries (cavities or holes in the teeth) and gum disease that can cause tooth loss. Cleaning teeth removes fermentable sugary and carbohydrate food debris that forms dental plaque, a coating on the teeth in which bacteria live and produce acid. The acid causes caries by stripping the minerals calcium and phosphate from the protective enamel covering of the teeth.

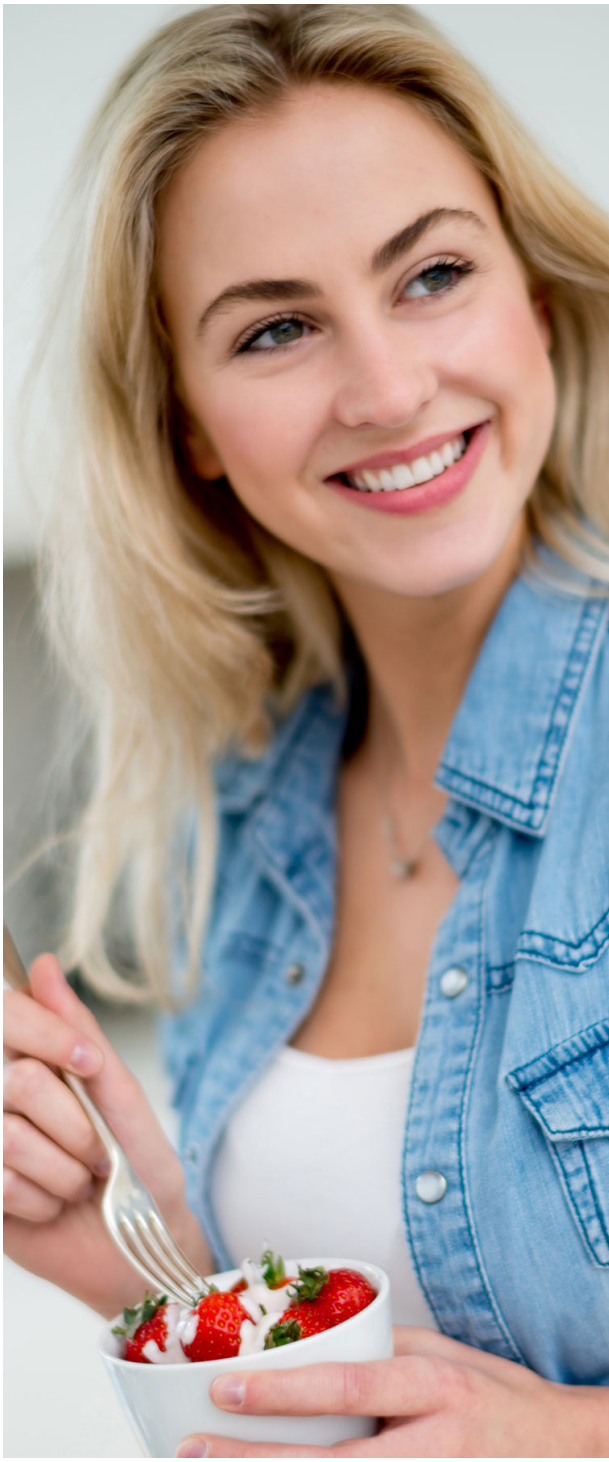
Frequently eating sugary foods that stay in the mouth for long periods e.g. sugar-sweetened confectionery can increase the risk of caries.[3] Studies show that the more free sugars eaten, and the greater the frequency of eating them, the more dental caries result in all age groups.[4] Reducing intake of sugars to the internationally recommended level of no more than 5-10% of daily calories decreases caries in children and adults.[5]

Helping prevent dental caries

Unlike free sugars and other fermentable carbohydrates, low/no calorie sweeteners, sometimes referred to as intense sweeteners, are non-cariogenic which means they do not cause dental plaque. Therefore, low/no calorie sweeteners do not contribute to the development of dental caries or compromise oral health.[6]

Reviewing the scientific data in 2011, the European Food Safety Authority (EFSA) concluded that there is sufficient scientific information to support the claim that:

Intense sweeteners contribute to the maintenance of tooth mineralisation by decreasing tooth demineralisation when consumed instead of sugars.[7] As a result, they help maintain healthy teeth and prevent dental caries.



Contributing to a healthier food environment

As tooth-friendly ingredients with recognised dental health benefits, low/no calorie sweeteners can provide sweetness while replacing sugars in foods, beverages, and chewing gum, as well as in oral healthcare products such as toothpaste and mouthwashes. Additionally, they can improve the palatability of medications and chewable vitamins, particularly for children.[8]

At a time when oral diseases are among the most prevalent and preventable non-communicable diseases worldwide, and one of the public health objectives of sugar reduction, low/no calorie sweeteners can make a valuable contribution to a healthier food environment.

The FDI World Dental Federation supports replacement of sugars with non-cariogenic low/no calorie sugar substitutes to reduce the risk of dental caries.[9]

Emerging research

A recent comprehensive review of the scientific evidence on aspartame confirmed that this sweetener, like other sugar substitutes, does not cause tooth decay.[10] Aspartame may help reduce cavities by cutting down sugar consumption.

Emerging research further suggests that some low/no calorie sweeteners may positively influence the balance of bacteria in the mouth, including those linked to tooth decay. Low/no calorie sweeteners such as acesulfame-K, aspartame, saccharin, stevia and sucralose may reduce levels of certain Streptococcus bacteria,[11-14] microbes associated with the development of cavities.[15] While this research is still emerging, the findings suggest these sweeteners may help reduce the activity and buildup of cavity-causing bacteria.

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