

# Dietary Free Sugars and Dental Caries

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## Context

The extensive scientific literature on dental caries supports that free sugars are a necessary dietary factor in the development of dental caries. A policy statement is necessary because insufficient attention has been paid to reducing dietary sugars to prevent dental caries. Moreover, greater scientific attention is now being paid to the relationship between common risk factors such as intake of dietary sugars and noncommunicable diseases (NCDs), including dental caries. New dietary recommendations from WHO recommend limits on free sugars intake for reducing the incidence of caries. WHO recommends that ‘free sugars’ be limited to a daily average of no more than 10% of total calories ([‘strong recommendation’](#)) for adults and even less for children. WHO also suggests limiting intake of these sugars to 5%, roughly 25g, of total calories ([‘conditional recommendation’](#)) to minimize the risk of dental caries throughout the life course. These recommendations are therefore crucial for the promotion of oral health and general health.

## Scope

The scope of this policy statement focuses on a brief review of the association between sugars and dental caries and the WHO Guideline on sugars.

## Definitions

Dietary free sugars are ‘all monosaccharides and disaccharides added to foods and drinks by the manufacturer, cook, or consumer, plus sugars naturally present in honey, syrups, fruit juices and concentrates.

## Principles

### **The relationship between free sugars and caries**

Dietary free sugars are the primary dietary factor responsible for caries – as sugars induce the proliferation of cariogenic bacteria and their metabolism results in acids that cause demineralization of enamel and dentin. This initiates the pathological process, which leads to caries. There are other factors, such as education, oral hygiene and use of fluoride, which influence this process but these are not truly aetiological factors. Health promotion should focus on the amount and frequency of free sugars intake as they are highly correlated. The dose-response relationship between free sugars and caries is log– linear. Each additional 5 grams of sugars intake has been associated with an increase in the probability of developing caries. Notably, there has been a higher prevalence and severity of caries with sugars intake of over 10% of total energy compared with less than 10% intake.

## Policy

FDI commits to:

- Coordinate action to implement the WHO Guideline on sugars intake for adults and children through international, national and local food policies.

- Advocate for the reduction of free sugars consumption as a central element of an integrated food policy, which seeks to create a supportive and sustainable environment conducive to good health.
- Advocate for dental organizations and international agencies to develop appropriate strategies based on a range of integrated health promotion complementary policies and actions across the downstream, where development of practical protocols for educating the profession and the public is important, midstream and upstream spectrum to reduce free sugars consumption.
- Advocate for oral health professionals and public health practitioners to play an important role in promoting healthy food policies and lobbying key decision makers on the regulatory changes needed.
- Advocate caries prevention strategies that focus on individual- and populationbased approaches to reduce free sugars consumption in general, particularly sugars-sweetened beverages consumption, across all stages of the life course.
- Encourage national dental organizations to introduce dietary guidelines to reduce free sugars in nurseries/day-cares, schools (including vending machines regulations), colleges, hospitals, work places and other institutions, and for patients in the dental clinics.
- Integrate lobbying activities with groups concerned about NCDs to get fiscal and legislative measures to implement the WHO recommendations on sugars.
- Support the urgent need of tighter and enforceable controls on the advertising, promotion and labelling of food and drinks containing free sugars, especially those targeting children and young adults.
- Work with pharmaceutical companies to reduce the production of sugar sweetened medicines.

## References

1. Burt BA, Eklund SA, Morgan KJ, Larkin FE, Guire KE, Brown LO, et al. The effects of sugars intake and frequency of ingestion on dental caries increment in a three-year longitudinal study. *J Dent Res* 1988; 67:1422-1429.
  2. Moynihan P, Kelly S. Effect on Caries of Restricting Sugars Intake: Systematic Review to Update WHO Guidelines. *J Dent Res* 2014 93(1):8-18.
  3. Sheiham A, James WPT. A reappraisal of the quantitative relationship between sugar intake and dental caries; the need for new criteria for developing goals for sugar intake. *BMC Public Health* 2014a 14:863
  4. Szpunar SM, Eklund SA, Burt BA. Sugar consumption and caries risk in schoolchildren with low caries experience. *Community Dental Oral Epidemiology* (1995) 23:142-146.
  5. World Health Organization. *The WHO Guideline: Sugars intake for adults and children*. Geneva: WHO; 2015.
1. **Strong recommendations** indicate that “the desirable effects of adherence to the recommendation outweigh the undesirable consequences”.

2. **Conditional recommendations** are made when there is less certainty “about the balance between the benefits and harms or disadvantages of implementing a recommendation”.