HEALTH BASICS

Sweeteners - sugars

Sugars are carbohydrates that sweeten food and provide energy.

WHAT IT IS
Carbohydrates used to sweeten foods and drinks

WHERE IT COMES UP
Food labels, recipes, dental care, and blood glucose discussions

WHY IT MATTERS
Added sugars affect teeth, energy intake, and blood glucose

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
Primary care clinician, dentist, or registered dietitian

HOW IT IS CHECKED
Nutrition labels, ingredient lists, and blood glucose tests

Overview

Sugars are carbohydrates that taste sweet and provide energy. Each gram of sugar provides about 4 calories. Sugar is a type of sweetener, but not every sweetener is a sugar.

Common sugars include glucose, fructose, sucrose, lactose, and maltose. Table sugar is sucrose. Lactose occurs naturally in milk, while fructose occurs naturally in fruit. Sugars are also added to foods during cooking or manufacturing.

"Added sugars" are sugars put into food or drink during processing or preparation. Examples include table sugar, corn syrup, honey, and maple syrup. In nutrition guidance, "free sugars" also include sugars in honey, syrups, fruit juice, and fruit juice concentrates.

Sugars inside intact fruit, vegetables, and unsweetened milk are not usually classed as added sugars. These foods also provide nutrients and, in the case of whole plant foods, fibre. Fibre and the food's structure can slow digestion and help you feel full.

Sugars are not a disease or diagnosis. They are one part of food and nutrition.

How it works

Your digestive system breaks many carbohydrates into simple sugars. Glucose then passes into your bloodstream and can be used by cells for energy.

The pancreas releases insulin in response to rising blood glucose. Insulin is a hormone that helps glucose move from the blood into cells. Some glucose is stored in the liver and muscles for later use. Fructose is mainly processed in the liver.

The body handles naturally occurring and added sugar through many of the same chemical pathways. However, the food or drink carrying the sugar matters. Whole fruit contains water, fibre, vitamins, and minerals. A sugary drink may deliver a similar amount of sugar quickly without being as filling.

Sugar names on ingredient lists include sucrose, glucose, dextrose, fructose, maltose, invert sugar, molasses, and syrups. Honey, agave syrup, coconut sugar, and raw sugar are also sugars. Terms such as "natural" or "unrefined" do not mean that a sugar has no effect on teeth, calorie intake, or blood glucose.

Sugar alcohols, such as xylitol, sorbitol, and erythritol, are a different group of sweeteners. They are not counted as added sugars in the same way. Some can cause wind, bloating, or diarrhoea when eaten in larger amounts. Low-calorie sweeteners, such as aspartame or sucralose, are also not sugars.

Why it matters for your health

Foods containing natural sugars can be part of a balanced diet. Milk, vegetables, and whole fruit provide more than sugar alone. The main health concern is usually frequent or high intake of added or free sugars, especially in drinks and foods with few other nutrients.

Bacteria in dental plaque use sugars and produce acids. Repeated acid exposure can damage tooth enamel and contribute to dental caries, also called tooth decay. How often teeth are exposed to sugar matters, not only the total amount eaten.

Sugary foods and drinks can add substantial calories. Regularly taking in more energy than your body uses can contribute to weight gain. Sugar-sweetened drinks are of particular concern because liquids may not make you feel as full as solid foods.

Eating sugar does not automatically cause diabetes. Type 1 diabetes is an autoimmune condition and is not caused by eating sugar. Type 2 diabetes has several influences, including genetics, body weight, physical activity, age, and overall diet. A pattern high in sugar-sweetened drinks is associated with a higher risk of type 2 diabetes.

Sugars can raise blood glucose. This is especially relevant if you have diabetes, prediabetes, or another condition that affects glucose control. The amount eaten, the type of food, and what is

eaten with it can all affect the rise.

What can go wrong

Frequent sugar exposure can contribute to dental caries . Sticky sweets and repeated sipping of sugary drinks keep sugar in contact with teeth for longer. Tooth pain, sensitivity, or visible damage deserves a routine dental assessment. Facial swelling, fever with dental swelling, trouble swallowing, or trouble breathing needs urgent care.

A diet containing more calories than your body needs can contribute to overweight and obesity . These are influenced by the whole eating pattern, activity, sleep, medicines, health conditions, and social factors. Sugar is not the only cause.

High intake of added sugars, particularly from sweetened drinks, can be part of dietary patterns linked with type 2 diabetes , cardiovascular disease , and raised triglycerides , which are fats measured in the blood. A single sweet food does not diagnose or predict any of these conditions.

People with diabetes may develop hyperglycaemia , meaning high blood glucose, or hypoglycaemia , meaning low blood glucose. Sugar can sometimes be used to treat low glucose, but you should follow your personal diabetes plan rather than guessing an amount.

Confusion, fainting, a seizure, or inability to swallow during suspected low blood glucose is an emergency. Do not give food or drink to someone who cannot swallow safely. Very high glucose with vomiting, severe weakness, deep breathing, dehydration, or ketones also needs urgent medical help.

What you can do

You do not need a special test to find out whether a food contains added sugar. Check the package's nutrition information and ingredient list.

On US Nutrition Facts labels, "Total Sugars" includes natural and added sugars. "Includes Added Sugars" shows the amount added during processing. Look at the serving size before comparing products because the listed amount may not represent the whole package.

Ingredients are listed in order by weight. Sugar may appear under several names, but using several different sugars does not make the food sugar-free.

Practical steps include:

US dietary guidance recommends limiting added sugars to less than 10% of daily calories from

age 2 onward and avoiding added sugars for children younger than 2. The World Health Organization recommends keeping free sugars below 10% of total energy intake, with a further reduction below 5% offering additional dental benefits.

These percentages are population guidance, not a personal prescription. A registered dietitian can help if food access, diabetes, an eating disorder, allergies, weight concerns, or another medical condition makes changes difficult.

Blood glucose or haemoglobin A1c tests may be appropriate when checking for diabetes or monitoring an existing diagnosis. They do not measure how much sugar you eat. Ask a primary care clinician whether testing is relevant to your health history.

- Compare added sugar per serving between similar products
- Choose water or unsweetened drinks more often
- Keep whole fruit separate from juice in your food choices
- Avoid frequent sipping or snacking on sugary items
- Brush with fluoride toothpaste and attend routine dental care
- Record foods and glucose readings if your diabetes team requests it

Common questions

Is brown sugar healthier than white sugar?

Brown sugar contains molasses, but the small nutrient differences are unlikely to be meaningful at usual serving sizes. Both count as added sugar.

Is honey better than table sugar?

Honey has a different flavour and composition, but it is still a free or added sugar. It can affect teeth, calorie intake, and blood glucose.

Is fruit too high in sugar?

Whole fruit contains naturally occurring sugar along with fibre, water, and nutrients. Fruit juice has less intact fibre and is easier to consume quickly. A clinician or dietitian may give individual advice if you need to manage blood glucose, potassium, swallowing, or another health issue.

Does sugar make children hyperactive?

Controlled studies have not shown that sugar itself causes hyperactivity in most children. Exciting settings where sweets are served may affect behaviour for other reasons.

Is "no added sugar" the same as sugar-free?

No. A product with no added sugar may still contain sugars naturally present in fruit or milk. Check the total sugars line and ingredient list.

Do you need to remove all sugar?

Usually, no. Sugars occur naturally in nutritious foods, and an occasional sweet food can fit within an overall eating pattern. Your needs may be different if you have diabetes, dental disease, difficulty eating enough, or another condition affecting nutrition.

Sources

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