

clips on sugars

FOR UP-TO-DATE INFORMATION ON SUGARS IN HEALTHY EATING

Sugars and Health

Sugar has been a part of the human diet for centuries, initially used as a medicine and gradually incorporated into European cooking during medieval times. With its transition from a luxury substance to a basic ingredient came a shift in the perception of sugar, particularly related to health. There is a lot of misinformation surrounding sugar and health, but the most reliable information comes from scientific research.

Sugars are carbohydrates

Health Canada recommends that we obtain 45-65% of our total calories from carbohydrates. Carbohydrates include starches, sugars, and fibre, which are mostly found in grain products, vegetables, fruits, and milk products.

Sugars are a natural part of many foods and are also important ingredients, providing sweetness and other functional roles in foods.

'Sugar' refers specifically to sucrose, the most abundant of the sugars found in nature (see table below). Sucrose is the major product of photosynthesis, the process that turns sunlight into energy in green plants. The sugar in your sugar bowl is the same sugar (sucrose) found naturally in sugar cane, sugar beets, apples, oranges, carrots and other fruits and vegetables. The body uses sugar (sucrose) from sugar cane and sugar beets in the same way as the sugar (sucrose) in fruits and vegetables.

In the body, sugar is broken down into glucose and fructose. Glucose is the body's main source of fuel. Fructose is mostly made into glucose or directly used as energy, with only a small amount (<3%) being stored as fat¹.

Common Types of Sugars	Common Sources
Sugar (Sucrose)	Fruits, vegetables, maple syrup, sugar cane, sugar beets
Glucose	Fruits, vegetables, honey, corn syrup
Fructose	Fruits, vegetables, honey, corn syrup
Lactose	Milk and milk products
Maltose	Germinating seeds (e.g. barley), starch
Corn Syrup (glucose syrup)	Corn starch
High Fructose Corn Syrup (glucose-fructose)	Corn starch which is broken down into glucose and then changed (using enzymes) into fructose; glucose and fructose are then blended

Sugars do not displace important vitamins and minerals.

Vitamins and minerals are essential nutrients that our bodies require to function properly. Minerals help regulate cell function and serve as building blocks for cells and organs. Vitamins have many specific functions and also help the body use the energy from food. Sugar is often described as "empty calories"; meaning that it contains calories, but does not contribute other nutrients. However, sugar is seldom eaten in isolation, but more often as an ingredient in foods that provide vitamins and minerals. In fact, sugars improve the taste of nutritious foods such as chocolate milk, sweetened yogurt and pre-sweetened cereals. Sugars add sweetness and important functional properties to a variety of foods; they do not displace vitamins and minerals in the diet².



A healthy body weight depends on your total diet and physical activity, not individual foods like sugar.

Sugars, like other carbohydrates such as starches, are a source of calories in the diet (4 calories per gram). Protein also provides 4 calories per gram while fat provides 9 calories per gram. Science shows that sugar affects weight in the same way as other sources of calories and will only influence body weight when eaten as excess calories³. Keep in mind that weight gain is very complex and that decreasing or avoiding one specific food or nutrient will not prevent weight gain, or lead to weight loss. Achieving a healthy body weight and lifestyle by following *Canada's Food Guide*, avoiding fad diets, managing portion sizes, and participating in regular physical activity is recommended rather than focusing specifically on one single nutrient such as sugar.



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Sugars are a good source of fuel for physical activity.

A nutritious, well-balanced diet is important for good health and energy. When it comes to the best choice for fuelling physical activity, carbohydrates such as starches and sugars play the starring role.

When carbohydrates are eaten as starches (in cereal, bread, pasta, etc.) or sugars (in fruit, milk, table sugar, honey, etc.) your body breaks them down into glucose. The glucose can be used to provide energy to the body's cells, particularly in the brain and muscles, or it can be stored for future use. The storage form of glucose, found in the liver and muscles, is called glycogen. Glycogen can be broken down into glucose any time the body needs energy or when blood glucose levels are low. For most of us, glycogen stores are enough to keep us going during exercise. But if your activities last longer than an hour, your glycogen stores will be low and you may need to turn to carbohydrate-rich foods or beverages to continue fuelling your body⁴.

Sugars do not cause diabetes.

Diabetes is a complex disease related to a number of genetic and lifestyle factors. Scientists believe that lifestyle changes including weight control, healthy eating, and physical activity can help prevent or delay the onset of type 2 diabetes, the most common form of diabetes. Blood sugar (glucose) control is an essential part of diabetes management; however, the intake of sugar and other carbohydrates does not cause diabetes.

Current research shows that it is the amount of all carbohydrates (starches and sugars) eaten and the rate of their digestion that are the most important factors in blood glucose control⁵. According to the Canadian Diabetes Association, sugars in moderation can be included in a healthy diet as a part of a carefully prepared meal plan. All carbohydrates, including sugars, should be spread evenly over the day, as part of meals and snacks. The Nutrition Facts table on food labels

provides important information about the carbohydrate content of packaged foods. Other important information for people with diabetes includes calories, fat, cholesterol and sodium. For specific advice about healthy eating and carbohydrate counting, contact the Canadian Diabetes Association (www.diabetes.ca).

Sugars are not addictive.

The term "addiction" refers to behaviours associated with psychological or physical dependence and is typically applied to substances like alcohol or drugs. Studies in animals have looked at how drugs, foods and other factors stimulate the brain. Although certain pleasurable foods may stimulate the same area of the brain, this does not mean they are addictive. In fact, studies in humans do not support the view that sugars and sweet foods increase food cravings or addiction⁶.

Unlike drugs and alcohol, foods, such as sugars, do not produce the effects of tolerance or withdrawal that are typical of addictive substances⁶. Our preference for sweet tastes is with us from birth, but this preference should not be confused with addiction.

Sugars do not cause hyperactivity.

The connection between sugar and hyperactivity is a popular belief, but scientific research has proven otherwise. Carefully controlled studies have shown that sugar intake is not linked to "hyper" behaviour in children or hyperactivity in those with attention-deficit/hyperactivity disorder (ADHD)⁷. Researchers have suggested that excited behaviour among healthy children may be linked to the excitement associated with special activities like parties, holiday celebrations and recess, but not to the sweets or other foods served at these events⁸.

It is often mistakenly believed that eating sugar-containing foods causes a 'sugar high' followed by a 'sugar crash'. This idea is, in fact, a myth. In healthy people, the body keeps blood sugar levels within a




narrow range. A gradual rise after eating a meal or snack containing carbohydrates (starches or sugars) followed by a slow decline, is a normal part of the body's regulation of blood sugar.

For healthy teeth, brush and floss.

Sugars and starches in foods including bread, fruits, vegetables, milk, and breakfast cereals can promote tooth decay (dental caries). However, it is not the total amount of sugars and starches eaten that contributes to the formation of dental caries, but the frequency of carbohydrate consumption, how long the food is in the mouth, and whether it sticks to the teeth⁹. The longer teeth are in contact with carbohydrates in these foods, the greater the risk of tooth decay. The good news is that the rate of dental caries has been dramatically reduced over the last 20 years by the use of fluoridated water. In addition, brushing your teeth with fluoridated toothpaste after meals, and using dental floss at least once a day helps to prevent dental caries.

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This fact sheet, developed with the collaboration of Registered Dietitians and Nutrition Researchers, is published by the Canadian Sugar Institute. If you have any questions about sugar and its relation to nutrition and health, feel free to contact:

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