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HEALTHY

LIVING SERIES

Nutrition: Carbohydrates, Sugar, and Fiber

The most important information you need to improve your health

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The Everything® Healthy Living Series

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Contents

Introduction

For more than 10 years, millions of readers have trusted the bestselling Everything series for expert advice and important information on health topics ranging from pregnancy and postpartum care to heart health, anxiety, and diabetes. Packed with the most recent, up-to-date data, Everything health guides help you get the right diagnosis, choose the best doctor, and find the treatment options that work for you.

The Everything® Healthy Living Series books are concise guides, focusing on only the essential information you need. Whether you're looking for an overview of traditional and alternative migraine treatments, advice on starting a heart-healthy lifestyle, or suggestions for finding the right medical team, there's an Everything Healthy Living Book for you.

Nutrition

Food is everywhere. Every street has a restaurant, every event has a concession stand, and every commercial is dripping with cheese. Billboards, newspapers, and the Internet are constantly trying to sell you food. And you want to buy it. But is what's out there really something you need? Does it do your body any good? Is it making you healthy and strong? And what about the kids? How are they handling being inundated with constant food opportunities? Are they growing up healthy, lean, and fit? If they live in America, there's a good chance they aren't.

Poor nutrition is a growing problem in the United States. It's not that we don't have enough to eat. It's that we have too much of the wrong stuff to eat. You probably already know you should lay off the fast food and pick up an apple instead of that doughnut. But have you ever wondered what healthier foods could really do for you?

Did you know that eating the right carbohydrates can give you ongoing energy? Did you know that bright fruits and vegetables can help protect you against cancer? Did you know that eating right at an early age can protect kids from food allergies?

Food is fuel. It can be delicious fuel, but it can also be the wrong fuel. Like putting diesel fuel in a gasoline engine, people often choose the wrong food. Without the proper fuel and regular intervals throughout the day, you sputter and stall and will likely need a tuneup, or worse, a complete overhaul. Getting the right fuel is not mysterious, difficult, expensive, or time-consuming. *The Everything® Healthy Living Series: Nutrition* will show you exactly what, when, and how much you need to eat to get back on the road to good health.

Focusing on lifestyle changes instead of following a specific diet is the ticket to achieving optimal health, decreasing your risk of illness, increasing your energy level, improving your quality of life and well-being, and reducing your medications. In this series, you'll find everything you need to know to get your family on the road to life-long good health.

If you'd like to learn more about nutrition, check out *The Everything® Guide to Nutrition*, available in print (978-1-4405-1030-4) and eBook (978-1-4405-1159-2) formats.

The Importance of Carbohydrates

Carbohydrates are necessary for achieving optimal health, and are found in four of the major food groups: whole grains, fruit, vegetables, and dairy products. These are your body and brain's main source of fuel. Carbohydrates are also needed to maintain proper function of the central nervous system, muscles, and metabolism of fat and protein. Today, we find carbohydrates in many forms, making it difficult to distinguish which ones are truly beneficial for us. All carbohydrates break down into sugar in your blood, which causes your pancreas to release insulin that transports sugar to your cells for energy. However, the rate at which food breaks down into sugar determines if your energy levels are going to be stable or climb quickly then crash. Fiber found in carbohydrates slows digestion and helps keep energy levels and hunger in check.

Simple Carbohydrates

Simple carbohydrates are the sugars. They are grouped by the number of molecules from which they are made. Single sugars, or monosaccharides, have one molecule. They include glucose, fructose, and galactose. Sugars composed of two molecules are called disaccharides. They include lactose, maltose, sucrose, and honey.

Glucose

Glucose is made by plants during photosynthesis as energy for the plant. Glucose is found in plants, fruits, and honey. Also known as dextrose, it is the human body's first source of energy. Most of the carbohydrates you eat are broken down into glucose by the body. Glucose is absorbed directly into the bloodstream, concentrating in the blood. This concentration is measured as your blood sugar level. You must eat 50 to 100 grams of carbohydrates each day to maintain good blood sugar levels.

Fructose and Galactose

Fructose is also found in honey, fruits, and plants. It is sweeter than glucose and table sugar. Galactose occurs in nature only as one of the two molecules that make up lactose.

Lactose

Also known as milk sugar, lactose is a disaccharide composed of one glucose and one galactose molecule. Found naturally in milk, it is the only animal-based carbohydrate. It is not commonly thought of as a sugar because it is not nearly as sweet as glucose.

Maltose

This disaccharide is composed of two glucose molecules. It is mainly seen in sprouting grains and is a vital component of beer. Brewers soak grain, usually barley, in water, until germination. The maltose is also extracted and used to make malt syrup, a common ingredient in artisan breads.

Refined Sugar: Sucrose

Sucrose is ordinary table sugar, derived from sugar cane and sugar beets. It is composed of one glucose and one fructose molecule. It occurs in small amounts in most fruits and is the most widely used sweetener in American homes. Sucrose provides quick energy, but it is stripped of its additional nutrients in the refining process, so it is not the ideal form of carbohydrate. The human body needs the entire natural package of a piece of fruit, or a tablespoon of honey, which, unlike table sugar, also includes fiber, water, vitamins, and minerals.

Honey

This disaccharide is also composed of one glucose and one fructose molecule. Honey is more concentrated than sucrose, which makes it twice as sweet. Consequently, less is needed when it’s used as a sweetener. The body breaks down and uses both sucrose and honey in the same way, but

honey is a naturally occurring sweetener that needs no refinement. It contains other elements that are considered healthful, including vitamins, minerals, fiber, and antioxidants. Honey can be substituted for granulated sugar as a sweetener, but because it is twice as sweet, use half as much.

Complex Carbohydrates

Complex carbohydrates are found in plant foods that contain starch and fiber. They are known as polysaccharides, meaning more than two sugars. They come in chains of thousands of glucose molecules. In order to be absorbed, your body must break apart these molecule chains. It takes considerably more effort for your body to absorb polysaccharides than it does to absorb single or double sugars.

Starch is found in grains, root vegetables, nuts, seeds, and fruits. It can gelatinize, meaning that it gets thick and absorbs water when heated.

Fiber, mainly found in plant cell walls, comes in two varieties: water-soluble and water-insoluble. Both types of fiber are essential for good health.

Water-soluble fiber includes substances such as pectin. When water is added, this fiber absorbs it like a sponge and swells. This type of fiber seems to help lower blood cholesterol levels, especially in conjunction with a diet low in fat. It also tends to delay the emptying of the stomach, so food is absorbed more slowly, causing that full feeling to last longer. Water-soluble fiber is found in beans, some grains including oats and barley, and fruits and vegetables such as apples and carrots.

Water-insoluble fiber, which includes cellulose, doesn’t swell nearly as much as water-soluble fiber. This is found in the structural parts of the plant — skin, seeds, and stems. Bran and any whole grain that still includes its outer hull, such as brown rice, are great sources of insoluble fiber.

Unlike starch, fiber-based polysaccharides cannot be broken apart by our digestive enzymes. This fiber keeps waste moving through the

intestines, which helps prevent disorders of the lower intestine. Complex carbohydrates are thought to play a role in the prevention of colon cancer by reducing the amount of time cancer-causing agents spend in the intestine.

Refined Flour

White flour is a commonly consumed starch. Made from wheat endosperm, white flour is so refined that it is practically digested before you eat it, and it is converted into sugar as soon as it is consumed.

The refining process strips the grain of both water-soluble and water-insoluble fibers found in its bran and germ. These two nutritious segments of the grain also contain vitamins, proteins, and healthful oils. In whole grains, the presence of fiber slows down digestion and allows time for these important nutrients to be absorbed. Through refinement, many of these nutrients are lost. Digestion and absorption occur quickly, just as happens when you ingest simple carbohydrates.

Whole Grains

Whole-grain food products undergo less refinement and still contain healthful fiber. They take longer to digest and allow the body to fully absorb nutrients. Whole-wheat flour, brown rice, whole-grain pasta, and whole-grain cereals are just some of the foods available in most supermarkets. Because these foods convert more slowly to sugar and take longer to be absorbed, they are a healthier choice than refined, processed grains for your family.

Focus on Fiber

Americans tend to skimp when it comes to “whole” fiber intake. Many products on the supermarket shelves contain “isolated fiber” (the fiber food manufacturers add to foods that would not naturally contain fiber), which does not provide the same benefits. Sources of fiber that support weight loss, satiety, heart health, and digestion derive from natural plant sources: vegetables, fruit, and whole grains. A healthy diet contains 25–38 grams per day of fiber, from a variety of sources. Fiber’s ability to control blood sugars and hunger makes it an important part of a meal or snack.

Soluble and Insoluble Fiber

As was discussed earlier, there are two kinds of fiber: water-soluble and water-insoluble. Both are necessary for good health. Water-soluble fibers have been shown to help lower blood cholesterol levels when included in a low-fat diet. Low-density lipoprotein (LDL) cholesterol levels appear to drop more when water-soluble fiber is part of your diet than when you eat a low-fat diet alone. In addition, water-soluble fibers slow the rate of digestion, which in turn increases the rate of nutrient absorption. The longer a food remains in the intestines, the more nutrients can be absorbed from it. Oats have the most soluble fiber of any grain, followed by barley and brown rice. Soluble fiber can also be found in legumes, citrus fruit, berries, and apples.

Insoluble fiber, such as cellulose, comes from the skin, stems, and seeds of plants. It is linked to lower risk and slower progression of cardiovascular disease. Because it keeps waste moving through the intestines, insoluble fiber may help prevent colon cancer by reducing the time cancer-causing agents are in the intestine. Fiber swells as it absorbs water, which delays the emptying of the stomach so you eat less. Not only

is this good for absorption, it makes you feel full longer. The extra chewing it takes to break down fiber forces you to eat more slowly, too, which gives your stomach time to tell your brain it's full.

Bran and whole-grain foods that still include the grain's outer hull, such as brown rice, are good sources of insoluble fiber. Nuts, fruit in its skin, and vegetables, including cabbage, celery, carrots, beets, and cauliflower, are also excellent sources of insoluble fiber.

Daily Requirements

The average adult needs about three cups of vegetables and four to five cups of grains every day. Most Americans get nowhere near that amount. As a general rule, one-third of your plate at every meal should be filled with fiber-rich grains, and every snack should include either fiber-filled fruit, vegetables, or grains.

As a country, we eat only 10 percent of the amount of fiber we ate at the turn of the twentieth century. Americans eat a lot of wheat, but it is made into highly refined flour and mixed with refined sugars and hydrogenated oils until your body no longer recognizes it as grain. Refined grains are partially responsible for the epidemic of weight gain, Type 2 diabetes, and cardiovascular disease. In addition, lack of fiber in the modern diet seems to be linked to gastrointestinal disorders, including several forms of cancer.

Increased intake of fiber can reduce these risks dramatically. As an added bonus, fiber sources also contain vitamins, minerals, protein, and limited oils.

Fiber Supplements

Fiber supplements are often prescribed for constipation and other bowel disorders. But these prescriptions are generally meant to be used for a limited time, until the conditions are alleviated. Lack of exercise,

insufficient fluid intake, and a lack of fiber intake all contribute to bowel malfunctions, as do some medications and surgical procedures.

It's easy to get too much fiber from supplements. This is problematic, as fiber binds to some minerals, including calcium and iron, preventing absorption. The conclusion is that fiber is best taken naturally. It's not hard to get the fiber you need. Choose bread that has at least two grams of fiber per slice. Eat high-fiber snacks such as popcorn and fresh veggies. For breakfast, add berries and dried fruit to high-fiber cereal. By getting your fiber this way, you also get all the other nutrients associated with those foods, which you need every day anyway.

Natural Sources of Fiber

The following list includes some common grains. They are not difficult to cook, and they offer much more in the way of flavor than plain, refined white rice. The basic method of cooking grain is to boil it in water. The ratio of water to grain varies, but it is generally two-and-a-half to three parts water to one part grain. Boil the water, then add the grain, and simmer over low heat with the lid on to trap the steam. This tenderizes the grain by encouraging absorption of water. You can also cook grain as you would pasta, in a large pot of boiling water, straining out the grain when tender. This method loses some nutrients, but it is convenient if the optimal water-to-grain ratio is unknown.

Simply boiling grains cooks them, but their flavor is greatly enhanced by toasting. Use a small amount of oil to toast the grain until it's brown and fragrant. This will give it a nutty, rich flavor.

- **Amaranth:** This tiny grain, grown at high altitude, originated in the Andes and Himalayas. It is commonly popped like popcorn, and bound together with honey, like an ancient Rice Krispies treat.
- **Barley:** This grain is less popular than it used to be. People rarely eat it except in soup, but it can make delicious side dishes and casseroles.

Pearled or polished barley has the bran removed. Hulled barley has the bran intact and is the more healthful choice.

- **Buckwheat:** This is not really a grain, but the seed of an herb native to Russia. It is commonly ground into flour and used in a variety of breads. It is also known as kasha, a toasted buckwheat groat that is cooked like rice.
- **Bulgur:** These wheat kernels have been steamed, dried, and crushed. They do not require cooking but need only be soaked in cold water. Bulgur is the base of Middle Eastern tabouleh salad.
- **Couscous:** This is not a grain, but a coarse granular semolina, which is a flour made from protein-rich wheat called durum. Couscous cooks quickly, and is a terrific vehicle for flavorful sauces and stews. It is usually associated with the cuisine of Morocco.
- **Cracked wheat:** This wheat is crushed with the bran intact. It is not pre-steamed like bulgur, so it must be cooked in boiling water like rice.
- **Kamut:** This is an ancient strain of wheat, whose kernels are more than twice the size of modern wheat kernels and contain a greater amount of protein. It can be made into pilafs, kneaded into breads, or ground into flour.
- **Millet:** Used mostly as bird seed in the United States, this small grain is a staple food in much of the world, due to its high protein content and pleasantly mild flavor. It cooks up soft and delicate.
- **Oats:** Most Americans eat oatmeal from rolled, quick-cooking oats. But oats are also available steel cut, as groats (grains that are hulled and crushed), which provide more nourishment, or as flour.
- **Quinoa:** This tiny grain has gained recent popularity, but it is actually an ancient food the Incas and Aztecs consumed. It is extremely high in protein and easy to cook, and it has a pleasant crunch.
- **Rye:** Closely related to barley and wheat, rye is available rolled like oats or as rye berries, in which the grain is whole with the bran

removed. Rye flour is commonly used in bread making, although it contains no gluten.

- **Spelt:** This is an ancient relative of wheat, native to southern Europe. Spelt has more protein than common wheat and, like kamut, has huge nutty grains.
- **Teff:** A tiny grain from Africa, teff is high in protein, calcium, and iron. It is eaten as porridge or ground into flour, and it is used to make the Ethiopian bread injera.
- **Triticale:** This is a nutritious hybrid of wheat and rye, available in whole-grain flour.
- **Wheat berries:** These are whole grains of wheat stripped of their outer hulls.

Fruit and Vegetable Fiber

The more skins and seeds you eat with your fruits and veggies, the more fiber you'll get. Fruits and veggies that are mostly skin and seeds — raspberries, blackberries, corn, kiwi, cucumbers, figs, and dried fruits — provide lots of fiber. Stems are good too, and although you may not relish the thought of eating a stem, consider that celery and asparagus are nothing but stem.

All green leafy vegetables are loaded with fiber — you can see it in the veins of their leaves. Artichokes, brussels sprouts, green beans, and onions are all good sources, too. And the sweet potato is a fiber gold mine.

Keep plenty of these fiber-rich fruits and vegetables on hand. Wash and cut them into serving sizes to encourage healthy snacking. Make fresh salads part of everyday eating, and use fresh and dried fruits to combat a sweet tooth.

Sweet, Sweet Sugar

Refined sugar causes your body to crave more refined foods, suppresses your immune system, and causes your energy levels to spike then crash. There are more than twenty different names for sugar, most being refined, in our sweet but poor national diet. The average American consumes about 150 pounds of sugar annually. A person could lose fifteen pounds in one year just by cutting out sugary sodas. If you would like to take control of your food cravings and eliminate excess weight, get your sweet fix in other, more nutritionally beneficial ways. Begin by learning the difference between “added” and “natural” sugars.

How Your Body Uses Sugar

Your body is designed to utilize the sugar in food as energy. Carbohydrates found in natural sugars and starches are broken down into their simple molecular components so they may be absorbed and converted to energy. In addition, these foods have other nutrients that your body needs and uses: vitamins, minerals, proteins, fats, and fiber.

Unfortunately, refined sugar, or sucrose, has no nutritional value. Although it is derived from plants (sugar cane and beets), it has been depleted of all other nutrients. What remains is pure carbohydrate in a form the human body was not built to utilize.

All these empty calories (foods that contain calories, but offer no viable nutrition, are said to contain “empty calories”) cannot possibly be used, and therefore are stored in the liver as glycogen. When the liver is full, excess glycogen is taken to the blood in the form of fatty acids and transported for storage all over the body, but particularly to areas that are relatively inactive: your belly, butt, breasts, and thighs. When these areas

are full, the fatty acids are distributed among your organs, reducing their ability to function.

> ***Fact***
>
> Sugar cane originated in the Pacific Islands, then migrated to Asia, the Middle East, and India. The Crusaders brought "sweet salt" back from their expeditions, and by the 1400s sugar cane plantations were in full production throughout the Mediterranean. By the 1600s, production began in the Caribbean, where it flourished. In the 1700s, beets became a popular sugar source when a British blockade denied Napoleon his Caribbean imports.

Your body reacts so strongly to a sudden influx of pure carbohydrate that you can physically feel a rush of energy. Unlike the sugar you get from fruits, milk, or honey, refined sugar is metabolized instantly. Once your body uses up the sugar, it craves more and sends you into withdrawal. If you don't consume more, you experience the inevitable crash. Your body reacts to what is essentially poison by sending nutrients to help keep you in balance. Vitamins, minerals, and enzymes rush to the rescue, resulting in depletion of these nutrients throughout the body.

Sure, carbohydrates are essential for good nutrition. But you were never meant to eat them in a refined state. Your body needs the full benefit of the nutrients that come with a piece of fruit or even a taste of honey. These natural foods take time to digest, entering the body slowly, so they can be put to use where and when they are needed.

Curbing Your Sugar Intake

Human babies respond to sugar quite early. The taste is innately pleasant because the calorie-rich carbohydrates are an essential energy source for humans. The taste for all things sweet develops as you age, but society has helped it along. In the twentieth century the demand for sugar skyrocketed.

Americans went from an annual consumption of a mere five pounds in the 1890s to the current intake of 150 pounds. How did this happen?
Soda pop is a major contributor to our increased sugar intake. Sugar-laden beverages won't quench your thirst. They are nothing more than liquid candy. But many Americans consume sodas with every meal, and between meals as well. Kids can even buy sodas at school.

Sugar absorbs water. In baking, this phenomenon helps keep products moist. In your body, it just makes you thirsty. As a result, drinking beverages with sugar to quench your thirst is counterproductive. This, coupled with the craving for sugar that comes after sugar is consumed, equals a guaranteed repeat customer for the soda pop companies.

Essential

Cats, from large jungle cats down to domestic house cats, are unable to recognize sweetness. In the wild, they're strictly meat eaters, so they have evolved without the sweet taste receptor. You can test it by offering your pets a bowl of water and a bowl of sugar water. Dogs, however, will feed their sweet teeth.

The other contributor to America's skyrocketing sugar consumption is hidden sugar. Whether you realize it or not, sugar is in almost everything you eat. Sure, you know it's in the obvious stuff, such as soda and cookies and candy. But it's also in ketchup, mayonnaise, salad dressings, fruit juice, bread, cereal, soups, pizza, pasta, yogurt, and cheese. And when foods are marketed as fat-free, there's a good possibility sugar is increased to raise palatability.

Check the labels of the food in your cupboard. Unless a product is specifically labeled sugar-free, chances are it will have sugar in it. But be sure to look carefully. Sugar goes by other names, including dextrose, glucose, fructose, lactose, corn syrup, sorghum, galactose, invert sugar, and malt or maltose.

Refined Versus Natural Sugar

You cannot escape all the sugar in foods, nor should you. You need it for survival, and let's not forget that sugar is yummy. But some sugars are better for you than others. You can get the sugar you need, eliminate what you don't, and still have a pleasurable life.

Granulated Sugar

Commonly referred to as white sugar or table sugar, it is made both from sugar cane and sugar beets. They are generally interchangeable, although cane sugar is preferable for candy work, as it tends to crystallize less than beet sugar.

Brown Sugar

This is white sugar that has molasses added to it, although traditionally brown sugar was less refined than white table sugar. In today's manufacturing process, it is more economical to refine all sugar, then add molasses (which is removed during refinement) back in to make brown sugar. Light brown sugar has less molasses, and less flavor, than the dark brown variety. Otherwise, they are interchangeable and their use should be determined by your taste preferences.

Molasses

A by-product of the sugar refinement process, molasses is widely used for its flavor and color. Unsulfured molasses is considered the finest quality and is made by boiling ripened sugar cane. Sulfured molasses is made from green sugar cane that is treated during extraction with sulfur dioxide, which acts as a preservative. Blackstrap molasses is made from subsequent boiling, and although it has less sugar, it contains large amounts of micronutrients, including iron, calcium, magnesium, and potassium. It is commonly used as a diet supplement, as well as in cattle feed and large-scale food manufacturing. Molasses from sugar beets is a different product and is not marketed to the general public.

Corn Syrup

This sweet syrup is made from cornstarch. Similar to the way carbohydrates are broken down in your system, acids and enzymes when added to liquefied cornstarch turn it into glucose with a small amount of dextrose and maltose. Another enzyme is used to create high-fructose corn syrup. It is a complicated process, but even so, high-fructose corn syrup is cheaper to produce and transport than sugar. High-fructose corn syrup has the same level of sweetness as sugar, and because it is less expensive, it is used far more frequently in manufacturing food products. In fact, Americans now consume more high-fructose corn syrup than any other form of sugar.

Honey

In an effort to curb your intake of refined sugars, consider using honey as a sweetener. Twice as sweet as sucrose, honey has a unique flavor that enhances baked goods. It is rich in antioxidants, and long-term use has been shown to provide health benefits, including improved digestion, a stronger immune system, and lower cholesterol.

Date Sugar

Date sugar is another option. It contains nothing except ground dried dates, but it is equally as sweet as refined sugar. It has the added benefits of fiber, which slows down its absorption into your body, and all the vitamins and minerals of dates. It does not melt like sugar, so it’s not good to use to sweeten coffee. But it is terrific in cakes and wherever you shake sugar for sweet crunchy toppings.

Maple Syrup

The majority of syrups in your market are made from corn syrup. But the real thing, made from reduced maple sap, is full of minerals and antioxidants. Lighter colored maple syrup is less concentrated than the dark stuff.

Agave Nectar

From the same plant that gives us tequila comes a syrup sweeter than cane sugar but with a very low glycemic index value, so it is absorbed more slowly into the bloodstream. This prevents it from raising blood sugar levels significantly, eliminating the highs and lows associated with sugar intake. For this reason, it's favored by people with diabetes and hypoglycemia. Creative chefs substitute agave nectar anywhere sugar or honey would ordinarily be used: barbecue sauces, marinades, baked goods, and so on. It adds a distinctive sweet flavor, reminiscent of tequila. Agave nectar is available through Internet sources (*http://sunstarorganics.com*, or *www.agavenectar.com*) and at health food stores.

Stevia

This sweetener is extracted from an herb (called stevia, sweetleaf, or sugarleaf) that is 300 times sweeter than granulated sugar but with a gylcemic index of zero. This means it will not affect your blood sugar level, producing no highs or lows. It doesn't melt or caramelize like sugar, but it dissolves nicely in liquids.

Fact

The glycemic index (GI) measures how fast food raises your blood sugar. Glucose, which raises your blood sugar most rapidly, has a GI of 100. Foods with high GI numbers are good for quickly raising blood sugar and when you want a burst of energy for intense exercise. Foods with low GI numbers are best to eat to support general activities or long periods of steady exertion.

Sugar Myths

Because sugar is such a beloved part of the American diet, it is no surprise that a few old wives' tales have sprung up around it.

Myth 1: Sugar Makes You Fat

The fact is that sugar is a part of a natural, healthy diet, and consumed as part of a well-balanced, natural diet, it will not cause excessive weight gain. Unfortunately, a well-balanced natural diet is not what most Americans consume. Most Americans eat a hefty amount of foods that contain added sugar. Added sugar is found in nearly all manufactured foods, including soda, juice, breads, condiments, cereals, and yogurts. These added sugars are considered the main contributor to the rise of obesity in America.

Myth 2: Sugar Is Addicting

Human DNA has a built-in craving for sweet food, but not for refined sugar. Primitive peoples needed to pad their bodies with excess weight for the long winter and times of famine, but they relied on sweet foods that were nutritious and nontoxic. We no longer have such needs, but we still experience the physiological desire for sweets. The key to combating this cruel side of evolution is to exercise some restraint. Get your sweet fix in as natural a form as you can and eat only enough to initially satisfy that sweet tooth.

Myth 3: A Healthy Diet Eliminates All Sugar

It would be unhealthy, and practically impossible, to eliminate all sugar from your diet. Sugar is a natural element in every kind of food, except meat. But eliminating the added sugars that do not naturally occur in foods is a great way to increase the nutritive values of your daily diet. Check labels regularly and opt for homemade over packaged foods to reduce your sugar intake.

Myth 4: White Sugar Is the Worst

Although it is true that white refined sugar is bad for you, it is no worse than brown sugar, “raw” sugar, powdered sugar, corn syrup, or any of the ingredients on food labels that end in “-ose.” All refined sugars should be limited in favor of natural sugars. It is true that natural sugars

break down in your body in the same way as refined sugars do, but it takes longer, and natural sugars provide additional nutrients.

Artificial Sweeteners

The Food and Drug Administration (FDA) has approved five artificial or "nonnutritive" sweeteners for human consumption. Testing is ongoing with all of these products, and their safety is still in question.

Saccharine

Used as an artificial sweetener for more than 100 years, saccharine is more than 200 times sweeter than sucrose, and it doesn't raise blood sugar levels. In the 1970s, it was found to cause cancer in rats and a ban was proposed. Because the effect has not been seen in humans, the product is still in use, but the labels must carry a warning. Saccharine is found in Sweet'N Low, Sweet Twin, and Necta Sweet.

Aspartame

This artificial sweetener is used in thousands of products all over the world. It contains 4 calories per gram, but it is about 200 times sweeter than sucrose, so you don't need much. A can of diet soda typically contains about 225 mg. There are many claims of adverse health effects from the ingestion of aspartame, including headaches, dizziness, anxiety, cramps, multiple sclerosis, lupus, and cancer. Headaches and depression have indeed been shown to occur in people with sensitivities who ingest aspartame. Aspartame isn't safe for people with a rare hereditary disease called phenylketonuria (PKU), and this is indicated on the label. Brain tumors have resulted in rats that ingest aspartame, but studies continue on the correlation between aspartame and human cancer. Dieters have also reported that aspartame increases appetite, especially cravings for carbohydrates. Aspartame is found in NutraSweet and Equal.

Acesulfame Potassium K

Two hundred times sweeter than sucrose, this product is generally used as a flavor enhancer and preservative. It contains the carcinogen methylene chloride, which, with long exposure, causes headaches, nausea, depression, liver and kidney disease, and cancer in humans. It has only undergone one initial testing. Acesulfame potassium K is found in Sunett and Sweet One.

Sucralose

This sweetener is 600 times sweeter than sucrose. It is the most recent addition to the list of artificial sweeteners and is currently used in nearly 5,000 products. Its big draw is that it can be used in baking, whereas other artificial sweeteners cannot. It has 391 calories per 110 grams, but because so little is needed, the amounts are small per serving and do not need to be reported on labels. The product is said to be made from sugar, but that is a bit misleading. Reports indicate it was discovered when scientists were treating sugar with a multitude of chemicals trying to create an insecticide. Adverse symptoms from sucralose consumption include gastrointestinal disorders, skin irritation, chest pain, anxiety, and depression. Sucralose is found in Splenda.

Neotame

This is a new sweeter version of aspartame, more than 7,000 times sweeter than sucrose. It was developed to be a version of aspartame that is safe for people with PKU. The FDA has given initial approval, but study continues. Neotame is used widely in food manufacturing.

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