

LEARNING ABOUT CARBOHYDRATES

You've probably seen ads for low-carb foods and diets, but kids and adults do need **carbohydrates**. Most foods contain carbohydrates, which the body breaks down into simple sugars - the major source of energy for the body.



Two Types of Carbohydrates

There are two major types of carbohydrates in foods: simple and complex.

Simple carbohydrates: These are also called simple sugars. Simple sugars are found in refined sugars, like the white sugar you'd find in a sugar bowl. If you have a lollipop, you're eating simple carbohydrates. But you'll also find simple sugars in more nutritious foods, such as fruit and milk. It's better to get your simple sugars from food like fruit and milk. Why? Because they contain vitamins, fiber, and important nutrients like calcium. A lollipop does not.

Complex carbohydrates: These are also called starches. Starches include grain products, such as bread, crackers, pasta, and rice. As with simple sugars, some complex carbohydrate foods are better choices than others. Refined grains, such as white flour and white rice, have been processed, which removes nutrients and fiber. But unrefined grains still contain these vitamins and minerals. Unrefined grains also are rich in fiber, which helps your digestive system work well. Fiber helps you feel full, so you are less likely to overeat these foods. That explains why a bowl of oatmeal fills you up better than sugary candy that has the same amount of calories as the oatmeal.

So which type of carbs should you eat? Both can be part of a healthy diet.

How the Body Uses Carbohydrates

When you eat carbohydrates, the body breaks them down into simple sugars. These sugars are absorbed into the bloodstream. As the sugar level rises in your body, the pancreas releases a hormone called insulin. Insulin is needed to move sugar from the blood into the cells, where the sugar can be used as a source of energy.

When this process goes fast - as with simple sugars - you're more likely to feel hungry again soon. When it occurs more slowly, as with a whole-grain food, you'll be satisfied longer. These types of complex carbohydrates give you energy over a longer period of time.

The carbohydrates in some foods (mostly those that contain a lot of simple sugars) cause the blood sugar level to rise more quickly than others. Scientists have been studying whether eating foods that cause big jumps in blood sugar may be related to health problems like diabetes and heart disease. You're probably already on the right track if you are limiting simple sugars (such as candy) and eating more complex carbohydrates (like vegetables, oatmeal, and whole-grain wheat bread).

Reviewed by: Mary L. Gavin, MD, Date reviewed: February 2008

Source: www.kidshealth.org/kid/stay_healthy/food/carb.html

CARBOHYDRATES, SUGAR AND YOUR CHILD

Carbohydrates are the body's most important and readily available source of energy. Even though they've gotten a bad rap in the 2000s and have often been blamed for the obesity epidemic in America, carbs are a necessary part of a healthy diet for both kids and adults.

The two major forms are:

- **Simple sugars** (simple carbohydrates), are sugars such as fructose, glucose, and lactose, as well as in nutritious whole fruits
- **Starches** (complex carbohydrates), found in foods such as starchy vegetables, grains, rice, and breads and cereals

So how, exactly, does the body process carbohydrates and sugar? All carbohydrates are broken down into simple sugars. These sugars are absorbed into the bloodstream. As the sugar level rises, the pancreas releases a hormone called insulin, which is needed to move sugar from the blood into the cells, where the sugar can be used as a source of energy.

The carbohydrates in some foods (mostly those that contain simple sugars and highly refined grains, such as white flour and white rice) are easily broken down and cause your child's blood sugar level to rise quickly. Complex carbohydrates (found in whole grains), on the other hand, are broken down more slowly, allowing blood sugar to rise more gradually. Eating a diet that's high in foods that cause a rapid rise in blood sugar may increase a person's risk of developing health problems like diabetes and heart disease, although these studies have been done mostly in adults.

Despite the recent craze to cut carbs, the bottom line is that not all foods containing carbohydrates are bad for your child, whether they're complex, as in whole grains, or simple carbohydrates, such as those found in fruits. If carbohydrates were such a no-no, we'd have a huge problem, considering that most foods contain them. But, of course, some carbohydrate-dense foods *are* healthier than others.

Good sources of carbohydrates include:

- Whole-grain cereals
- Brown rice
- Whole-grain breads
- Fruits
- Vegetables
- Low-fat dairy

A healthy balanced diet for children over 2 years should include 50% to 60% of the calories consumed coming from carbohydrates. The key is to make sure that the majority of carbs kids eat are from good sources and to limit the amount of added sugar in their diet.

"Good" vs. "Bad" Carbs

Carbohydrates have taken a lot of heat in recent years. Why? Because many medical experts think excess consumption of refined carbohydrates (refined sugars found in foods and beverages like candy and soda, and refined grains like white rice and white flour, found in many pastas and breads) have contributed to the dramatic rise of obesity in the United States.

But how could any one type of food cause such a big problem? Of course, not exercising and eating larger portions of any foods than we need take the lion's share of blame for the obesity epidemic. But the so-called "bad" carbs — sugar and refined foods — tend to be

significant contributors to excess calories. Why? Because they're easy to get our hands on, come in large portions, taste good, and aren't too filling.

People tend to eat more of these refined foods than needed. And, often, foods like colas and candy provide no required nutrients, so we really don't need to eat them at all.

But just because refined carbohydrates have received a lot of flak in recent years doesn't mean that all simple sugars are bad. Simple carbohydrates found in a lot of very nutritious foods — like fruits, vegetables, and dairy products, which provide a range of essential nutrients that support growth and overall health. For example, fresh fruits contain simple carbs, but they have vitamins and fiber, too.

The 2005 dietary guidelines recommend that Americans eat more unrefined (often called "good") carbohydrates by saying that everyone — including kids and teens — should increase whole-grain consumption and limit their intake of added sugar. For children, at least half of their grain intake should come from **whole grains**.

Whole grains certainly *sound* like the healthy way to go. But what makes them so different from simple carbohydrates? Whole grains are complex carbohydrates (like brown rice, oatmeal, and whole-grain breads and cereals) that are:

- **broken down more slowly in the body.** Whole grains contain all three parts of the grain (the bran, germ, and endosperm), whereas refined grains are mainly just the endosperm — and that means more for your body to break down. More to break down means the breakdown is slower, the carbohydrates enter the body slower, and it's easier for your body to regulate them.
- **high in fiber.** Not just for the senior-citizen crowd, foods that are good sources of fiber are beneficial because they're filling and, therefore, discourage overeating. Diets rich in whole grains protect against diabetes and heart disease. Plus, when combined with adequate fluid, they help move food through the digestive system to prevent constipation and may protect against gut cancers.
- **packed with other vitamins and minerals.** In addition to fiber, whole grains contain more important vitamins and minerals, including B vitamins, magnesium, and iron.

Unrefined carbohydrates found in whole grains are ideal, refined grain products may be fortified with folic acid (also called folate), iron, and other nutrients, and as a result may contain more of these nutrients when compared with whole-grain foods that have not been fortified.

The actual amount of grains will vary depending on your child's age, gender, and level of physical activity. On average, school-age children should eat about 4- to 6-ounce equivalents from the grain group each day and at least half of these servings should come from whole grains. All ounce equivalent is like a serving. So one slice of bread, 1 cup of ready-to-eat cereal, or a half cup of cooked rice, cooked pasta, or hot cereal can be considered a 1-ounce equivalent.

Sizing Up Sugar

Foods that are high in added sugar (soda, cookies, cake, candy, frozen desserts, and some fruit drinks) tend to also be high in calories and low in other valuable nutrients. As a result, a high-sugar diet is often linked with obesity. Eating too many sugary foods can also lead to tooth decay.

The key to keeping sugar consumption in check is moderation. Added sugar can enhance the taste of some foods, and a little sugar, particularly if it's in a food that provides other important nutrients, such as cereal or yogurt, isn't going to tip the scale or send your child to the dentist.

Instead of giving your child foods that are low in nutrients and high in added sugar, offer healthier choices, such as fruit — a naturally sweet carbohydrate-containing snack that also contains fiber and vitamins that kids need.

One way to cut down on added sugar is to eliminate soda and other sugar-sweetened beverages. Not only can drinking sweetened sodas lead to the erosion of the enamel of the teeth from the acidity and dental cavities (or caries) from the high sugar content, consider these statistics:

- Each 12-ounce (355-milliliter) serving of a carbonated, sweetened soft drink contains the equivalent of 10 teaspoons (49 milliliters) of sugar and 150 calories. Sweetened drinks are the largest source of added sugar in the daily diets of U.S. children.
- Consuming one 12-ounce (355-milliliter) sweetened soft drink per day increases a child's risk of obesity.

Instead of soda or juice drinks (which often contain as much added sugar as soft drinks), offer kids low-fat milk, water, or 100% fruit juice. Although there's no added sugar in 100% fruit juice, the calories from the natural sugars found in fruit juice can add up. The American Academy of Pediatrics (AAP) recommends limiting juice intake to 4–6 ounces (118–177 milliliters) for children under 7 years old, and no more than 8–12 ounces (237–355 milliliters) of juice for older kids and teens.

Figuring Out Carbs and Sugar

It isn't always easy to tell which foods are the best choices and which aren't, just by looking at the labels. To figure out carbohydrates, look under Nutrition Facts on food labels, where you'll find three numbers for total carbohydrate: the total number of carbohydrates, the amount of dietary fiber, and sugars.

- **Total Carbohydrate:** This number, listed in grams, combines several types of carbohydrates: dietary fibers, sugars, and other carbohydrates.
- **Dietary Fiber:** Listed under Total Carbohydrate, dietary fiber itself has no calories and is a necessary part of a healthy diet. A high-fiber diet promotes bowel regularity and can help reduce cholesterol levels.
- **Sugars:** Also listed under Total Carbohydrate on food labels, sugars are found in most foods. However, the Nutrition Facts label doesn't make the distinction between natural sugars and added sugars. Natural sugars are found in many foods, including fruit and dairy products. Snack foods, candy, and soda often have large amounts of added sugars. To find out if a food has added sugar, you need to look at the ingredient list for sugar, corn syrup or sweetener, dextrose, fructose, honey, or molasses, to name just a few. Avoid products that have sugar or other sweeteners high on the ingredient list.

Although carbohydrates have just 4 calories per gram, the high sugar content in snack foods means the calories can add up quickly, and these "empty calories" usually contain few other nutrients.

Making Carbohydrates Part of a Healthy Diet

Ensuring that kids get a balanced, nutritious diet isn't as hard as it may seem. Simply make good carbohydrate choices (whole grains, fruits, veggies, and low-fat milk and dairy products), stock your home with healthy choices, limit foods containing added sugar (especially those with little or no nutritional value), and encourage kids to be active every day.

Above all, be a good role model. Kids will see your wholesome habits and learn to apply them to leading a healthy lifestyle throughout childhood and into adulthood.

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THE TRUTH ABOUT FATS

For years, fat has been the bogeyman of bad health. Increasingly, however, research is showing that not all fats are equal. Some oils and fatty foods contain chemicals called essential fatty acids, which our bodies need for good health. How do you know the difference between good fats and bad fats? Read on!

"We've had such emphasis on eating low-fat foods," says Patricia Kendall, PhD, RD, a professor at the Colorado State University Cooperative Extension Office. "But all these new studies on oils and high-fat foods like nuts and cold-water fish show we've been ignoring how much we need certain fats." The two essential fatty acids most important to good health are omega-3 and omega-6. But we need these in the right balance in order to protect our hearts, joints, pancreas, mood stability, and skin.

Unfortunately, we eat way too much omega-6, which is found in the corn oil and vegetable oils used in so much American food. Too much omega 6 can raise your blood pressure, lead to blood clots that can cause heart attack and stroke, and cause your body to retain water.

We don't eat nearly enough omega-3, which can reduce our risk for heart disease and cancer. Omega-3 is found in fish and fish oil, all green leafy vegetables, flax seed, hemp, and walnuts.

How Much Fat Do You Really Need?

Most experts recommend that we get 30% of our calories from fat, although we can survive fine on as little as 20%, even 10%. If you're like most of us, you're getting plenty of fat - most Americans consume about 40% of their calories from fats in meat, butter, cheese, baked goods, etc.

The better question to ask is, "Are you getting the enough of the right fats?" says Ruth Kava, PhD, RD, of the American Council of Science and Health. "Most of us get too much fat, and too much unhealthy fat," she says.

Making the Switch

To make the switch to heart-healthy fats, start by avoiding the truly unhealthy fats - trans fatty acids. These trans fats come from vegetable oils that were chemically modified so they are solid like butter. Because these oils don't spoil as quickly as butter, they are used in most packaged cookies, chips, crackers and other baked goods sold in the supermarket, as well as in margarines.

The solidifying process - called hydrogenation - extends the shelf life of food, but it also turns polyunsaturated oils into a kind of man-made cholesterol. Trans fats can increase your level of "bad" LDL cholesterol, and may increase your risk of heart disease. What's more, these man-made fats are taken up by the body much easier than are omega-3s. So trans fatty acids not only harm your health, they also block the absorption of healthy fats.

"How bad trans fats are for you depends on how much you eat," says Kava. "Trans fats can raise your blood cholesterol as much as excess cholesterol (from the diet) can in some people."

To avoid trans fats, look on the nutrition label of packaged foods. They'll appear on the ingredients list as "hydrogenated" or "partially hydrogenated" vegetable oils. If you can, switch to products that don't use hydrogenated oils. The baked goods won't last quite as long in your pantry, but your body will benefit.

Now for the good news: There are some fatty snacks that actually boost your health!

Go Nuts

Nuts are the latest high-fat food to undergo a change in dietary reputation.

"It doesn't seem to matter what nuts you eat to get important benefits, as long as they don't have added oil and salt," says Kendall.

The latest pro-nut research is out of the Harvard School of Public Health. Researchers found that women who reported eating a half serving of peanut butter or a full serving of nuts five or more times a week showed as much as a 30% reduced risk of developing type 2 diabetes. And the findings go on.

Other nuts, including almonds, walnuts, and pecans, have been shown to have heart healthy benefits, including lowering "bad" LDL cholesterol. (Remember, walnuts are also a source of omega-3.)

Nuts to Avoid

There really aren't any unhealthy nuts, as long as you leave off the oil and salt. But it's important to remember that all nuts are high in calories.

"You can't just add them to your diet," says Kendall. "You really need to think about using them to replace empty calories. Think about them as excellent substitutes for junk food."

Bring on the Fish

For a while now, cold-water species of fish such as salmon, tuna, trout, striped bass, sardines, and herring have taken the spotlight as the best protein-rich food source because they are loaded with omega-3 fatty acids. Studies show that people who eat such fish two times a week have less heart disease, a reduced risk of cancer, and improvements in mental health, particularly in mood function.

But there's a caveat.

"I'm also concerned about the mercury that these species of fish can carry for pregnant women," says Kava. She recommends that pregnant women stay away from shark, swordfish, and king mackerel because these bigger species tend to present more of a risk.

If you're not pregnant but still concerned, Kava says small salmon species give the most benefit with the least exposure to mercury.

Animal Fat to Avoid

We've long been told to eat less red meat, but new long-term studies of how eating habits affect actual health measures do not bear out many of the popular myths.

"People want to hear that not eating less red meat will save them, but that is a simplistic notion that doesn't really fit in with modern nutrition science," says Kava. "What the science tells us is that lifestyle changes -- stopping smoking, getting regular exercise, limiting alcohol intake, increasing vegetable intake -- has by far the most pronounced effect in improving a person's health than does cutting out certain food categories."

This does not mean you should eat steak every night. If you're at high risk of heart disease, you should still severely limit your saturated fats. But the newer research does explain why many health organizations no longer try to scare people away from "bad" foods.

For example, says Kendall, "for years, we've encouraged people to eat poultry instead of red meat because it is lower in saturated fat. But when you look at the data on how these foods affect actual blood cholesterol levels, there isn't that much difference."

Rather than avoid meats, nutritionists today say you should simply eat more of the foods proven healthy in long-term studies: fish, vegetables, and fruit. Equally important, exercise, even you just walk briskly 30 minutes a day.

The Good Oils

The health message about oils has not changed and is very simple. Stick to olive oil or canola oil. Olive oil is loaded with monounsaturated fatty acids, which do not raise blood cholesterol levels. It also is a good source of vitamin E and polyphenols, which act as antioxidants, reducing the oxygen-related damage to the vascular system.

Canola oil, on the other hand, has loads of monounsaturated fatty acids in the form of oleic acid. This acid has been shown to reduce blood cholesterol levels, and it may lower LDL, or "bad," cholesterol levels without changing "good" HDL levels. Also, canola oil is high in two essential polyunsaturated fatty acids that our bodies can't make: alpha-linolenic acid and linolenic acid.

Alpha-linolenic acid appears to lower blood triglyceride levels. It also may reduce platelet aggregation and increase blood clotting time, both of which are important to people at risk of heart disease and stroke.

Oils to Avoid

Simply put, avoid vegetable oils that are high in omega-6 fatty acids, such as regular vegetable oil, corn oil, safflower oil, soybean oil, and cottonseed oil.

Good Spreads

Until the recently, there really were no healthy spreads. Butter is too high in cholesterol for people who are at risk of heart disease; most margarine is made from trans fatty acids. In the 1980s, some manufacturers put out special, watered-down versions of spreads that had lower overall calorie content, but they tasted like it.

Then came spreads made from olive oil, wood pulp (Benecol) and soybeans (Take Control), which include chemicals that actually help your heart's health.

"Spreads like Benecol, which are made from plant stanol esters, are lower in trans fat than regular margarine and have been shown to lower the risk of heart disease," says Kendall. They especially help people taking statin drugs to lower their blood cholesterol levels. "But," she adds, "they are more expensive, too, so if you are at risk of heart disease, they may be worth the price."

Kendall suggests doing what the Italians do -- put olive oil on your bread. Or, you could make what she calls "better butter."

Blend one part olive or canola oil with one part butter," Kendall says. It makes a softer spread and dilutes the cholesterol with monounsaturated fats.

Spreads to Avoid

Remember, traditional margarine is a trans fat nightmare. Check the ingredients list and avoid spreads that are made of "hydrogenated" or "partially hydrogenated" oils.

Reviewed by Charlotte E. Grayson, MD. Published February 2003.

*Sources: Patricia Kendall, PhD, RD, professor, Colorado State University Cooperative Extension Office * Ruth Kava, PhD, RD, American Council of Science and Health * Artemis Simopoulos, MD, editor in chief, World Review of Nutrition and Dietetics * The PDR Family Guide to Nutrition and Health. © 2003 WebMD Inc. All rights reserved.*

FISH OIL AND WEIGHT LOSS RESEARCH

Surprised that there are proven benefits for fish oil and weight loss? It's true! Recent studies on fish oil for weight loss, fat burning and depression show that people who get the most fish oil with DHA burn more fat, have less obesity, weigh less and have less depression while dieting than those who get the least amount of fish oil. These benefits of fish oil and weight loss can be added to all the extraordinary ever-growing list of already-proven, super-nutrient health benefits of fish oil like:

- Protection against heart disease and stroke,
- Improvement in brain development and function,
- And reduction in the risk of certain cancers.

Fish Oil, Fat Burning and Weight Loss Research

A study done at the University of Georgia found that fish oil with DHA helps stop the conversion of pre-fat cells into fat cells by causing them to die. This significantly decreases the accumulation of fat. [*Journal of Nutrition*, Vol. 136:2965-2969]

And doesn't that sound like a dream fantasy come true? You just send in a fish oil knight-in-armor to kill off all those big bad fat cells before they can set up a stronghold in your body castle. Plus it's not the only proven benefit of fish oil for weight loss.

Researchers at the University of South Australia found that fish oil capsules combined with exercise caused more fat loss than exercise without fish oil supplements.

The fish oil group also had a far better improvement in their heart health markers. Of the 75 overweight adults in the study (ages 25 to 65) those who received daily fish oil supplements had a 10% reduction in LDL (bad) cholesterol levels and 14% decrease in triglycerides. [*American Journal of Clinical Nutrition*, Vol. 85:1267-1274]

A more recent study done in Japan reported that omega 3 fish oil reduced weight gain in lab mice by boosting their fat metabolism. Scientists believe it's also true for humans. When two groups of obesity-prone mice were fed high fat diets, those also receiving fish oil supplements gained less weight and metabolized more fat than the group receiving no fish oil supplements. [*Journal of Nutrition*, December 2007, Vol. 137: 2629-2634]

Lead scientist Takuya Mori concluded, "These findings suggest that an up-regulation of intestinal lipid metabolism is associated with the anti-obesity effect of fish oil."

Fish Oil and Weight Loss Depression

Scientists have understood for a long time that we need certain good fats to keep our hormones balanced, so that WE feel balanced. They also know that good essential fatty acids help keep your metabolism up and running at top speed. Most dieters abandon weight loss because of anxiety and depression – they just plain feel bad. And studies show a major reason for "the blues" is lack of omega 3 DHA.

Research published in the *Journal of Affective Disorders* [Vol. 26, No. 38, 35-46] found that "depressed subjects showed significantly lower total omega 3 fatty acids" than those who weren't depressed. So a lack of fish oil fatty acids greatly contributes to depression.

UK University of Sheffield researchers summed it up, "Fish oil supplements with DHA alleviate anxiety and depression." [*Journal of Affective Disorders*, Vol. 48 (2-3):149-55]

Still another study found that, when omega 3 DHA was given to "depressed subjects, compared to subjects in a placebo group, there were highly significant benefits" in just three treatments. [*American Journal of Psychiatry*, Vol. 159:477-479]

So omega 3 fish oil with DHA can work fast to overcome dieter's depression. And the more fish oil fatty acids people get, the better they feel.

Bottom Line for Fish Oil and Weight Loss

High quality fish oil capsules can give you all these weight loss fish oil benefits with just miniscule fat calories. And that's really important when every calorie counts. Ask your Coach.

BEST, GOOD AND BAD FATS

Remember that all fats are high in calories.

The best choices for heart health are the monounsaturated, omega 3 fats and the polyunsaturated fats.

<p><u>Best Fats</u></p> <p>Monounsaturated Fat Foods</p> <ul style="list-style-type: none"> • Avocado • Oil (canola, olive, peanut, sesame) • Olives (all) • Nuts <ul style="list-style-type: none"> – almonds, cashews – filberts, hazelnuts – macadamia nuts – peanuts, pecans – pistachios • Peanut butter, old-fashioned • Sesame seeds 	<p><u>Good Fats</u></p> <p>Polyunsaturated Fat Foods</p> <ul style="list-style-type: none"> • Margarine (first ingredient is polyunsaturated oil) • Mayonnaise (regular or reduced-fat) • Miracle Whip Salad Dressing (regular or reduced-fat) • Nuts (walnuts) • Oil (corn, safflower, soybean, cottonseed) • Salad dressing (regular and reduced-fat) • Seeds (pumpkin, sunflower)
<p>Omega-3 Fatty Acids</p> <ul style="list-style-type: none"> • Fatty fish (salmon, mackerel, tuna, herring) • All fish and shellfish contain these fats • Nuts and flaxseed 	
<p><u>Bad Fats</u></p> <p>Saturated Fats</p> <ul style="list-style-type: none"> • Bacon and bacon grease • Butter (stick, whipped, reduced-fat) • Coconut • Cream and half-and-half • Cream cheese • Ice cream • Lard and salt pork • Palm and palm kernel oil 	<p><u>Bad Fats</u></p> <p>Trans Fats</p> <ul style="list-style-type: none"> • Hydrogenated or partially hydrogenated fats • Margarine (stick) • Nondairy creamers • Shortening