# Nutrition Times

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## Study: High-Fat Diet Encourages Eating

*By Jennifer Viegas, Discovery News*

### Aug. 23, 2005

A high fat diet consumed two to three weeks of more suppresses a hormone that leads to feelings of fullness and actually causes more fatty food consumption. It is as though foods high in saturated fats hijack our bodies and make us desire more of them, researchers say.

"It is possible that high-fat diets may lead to gastrointestinal and physiological adaptations that might serve to increase food intake and therefore predispose an individual to weight gain," said Mihai Covasa, assistant professor of nutritional sciences and a member of the Penn State Neuroscience Institute, who co-authored the study with the institute's David Savastano.

Covasa added, "The key point is that when individuals are exposed on a chronic basis to a higher level of dietary fat, the negative feedback system in place to regulate body fat falters."

Covasa and Savastano gave lab rats doses of a known "stop eating" hormone. In humans, this hormone is released into the small intestine when we have consumed a certain amount of food. The hormone activates neurons that send a message to the brain that the individual should stop eating and a feeling of fullness results.

Some test rats consumed a low-fat chow, while others ate a high-fat food. Additionally, for three hours daily over a three-week period, all of the rats had access to a high-fat snack containing saturated fats, such as lard and hydrogenated vegetable oil. The researchers regulated the food amounts, so that both sets of rats consumed the same number of calories each day.

Details of the study are in the current *Journal of Nutrition*.

The scientists found that rats on the low-fat diet curbed their chomping on the caloric snack, due to the hormone. The hormone did little for the high-fat-diet rats. They ate 40 percent more of the snack.

Covasa believes the results apply to humans, and may even be compounded by our love of fatty foods.

"Fat is palatable and it tastes good," he explained to Discovery News. "We know that palatability overrides other physiological signals that are in place. (A) typical example: you just ate but couldn't resist that chocolate cake or an ice cream."

Janet Guss, a scientist at Columbia University's Obesity Research Center and St. Luke's Roosevelt Hospital Center, told Discovery News that she hoped "future studies will follow up on his finding by measuring consumption of snack foods in humans that have been adapted to high-fat diets."

For all consumers, Covasa offered three suggestions for healthier eating.

"Pay attention to what you eat, that is, the composition of the diet is very important, not just the total calories," he said. "Diversify your diet — do not eat the same diet, particularly foods high in fats, for more than a few days. If your current diet is high in fats, switch to a low-fat diet."

## Deciphering Food Labels

Research has shown that eating a well-balanced, nutritious diet reduces the risk of coronary heart disease, strokes, some cancers, and osteoporosis. And the grocery store shelves are full of foods with packaging promising to help do that.

But it's important to take a close look - beyond the promises - at the nutritional values, ingredients, and calorie counts in the food you're buying, and to understand how they factor into your family's healthy eating.

Food labels provide this information and allow you to make informed healthy food choices to help meet your family's nutritional needs.[1]

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[1] Reviewed by: Mary L. Gavin, MD
Date reviewed: October 2005
Originally reviewed by: Steven Dowshen, MD, and Heidi Kecskemethy, RD, CSP

Food Labels Information

The Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) require labels on almost all packaged foods that include nutrition information in readable type. The information usually appears on the back or side of packaging under the title "Nutrition Facts." It's also displayed in grocery stores near fresh foods, like fruits, vegetables, and fish.

The nutrition facts usually include:

* a column of information, "% Daily Value," that shows what portion of the amount of daily recommended nutrients the product provides
* information about saturated fat, trans fat, cholesterol, fiber, sugar, and calories from fat
* serving sizes that are close to the amount that people actually eat
* health claims, such as "light" or "low fat," that must meet strict government definitions so that they are accurate and consistent from one food to another

## Learning Label Language

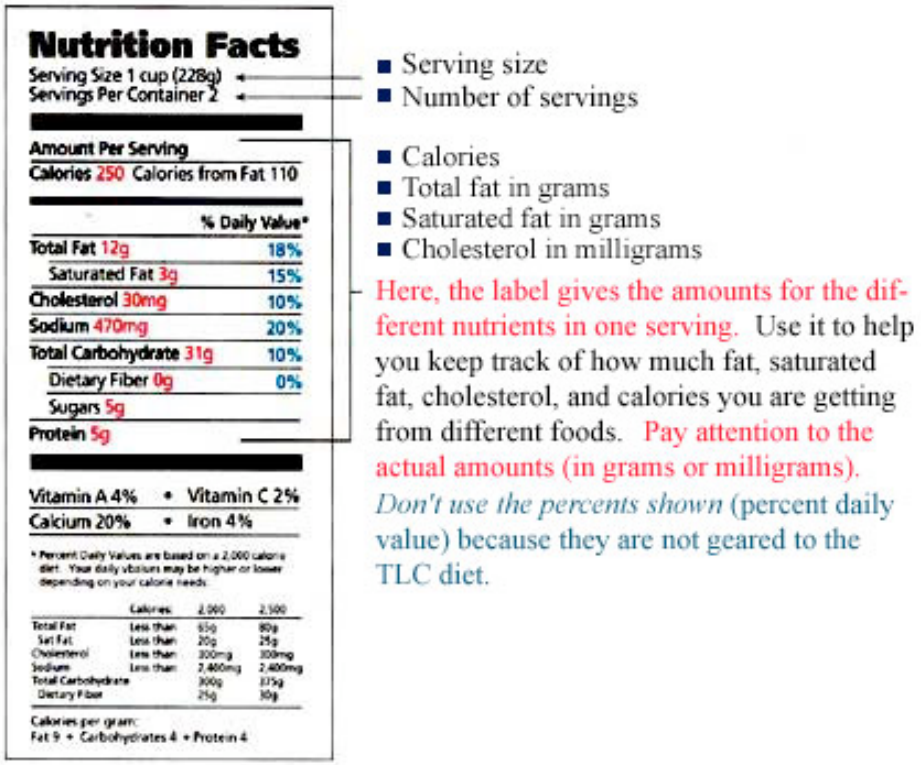
At a glance, it may appear as though everything on the shelves either adds fiber to your diet or reduces fat intake. In order to make healthy, informed food choices, it's important to understand: food label claims; serving sizes; calorie requirements; percent daily values; and important nutrients, vitamins, and minerals.

## Food Label Claims

Manufacturers often make claims about the healthfulness of a food on the front of a package - like "fat free" or "no cholesterol." Many people wonder if they can trust these claims to be true. The fact is, the FDA does require food makers to provide scientific evidence in order to make those claims. Even so, it's a good idea to carefully read the claims and understand what they mean.

* Reduced fat means that a product has 25% less fat than the same regular brand.
* Light means that the product has 50% less fat than the same regular product.
* Low fat means a product has less than 3 grams of fat per serving.

Even a low-fat food can be high in sugar. Food companies also may make claims such as "no cholesterol" (meaning there is no animal fat used in making the product), but that does not necessarily mean the product is low in fat.




## Serving Size and Servings Per Container

At the top of each food label you'll see an amount listing for serving size. These are determined by the food manufacturer, and they're based on the amount that people generally eat. All of the information about the nutritional value of the food that is listed on the label is given according to the serving size. So if a serving size is 2 crackers and you eat 4 crackers - which would be two servings - you need to double all of the nutrition information.

The number of servings per container tells you how many serving sizes are in the whole package. So if one serving is 1 cup, and the entire package has 5 cups, there are 5 servings per package.

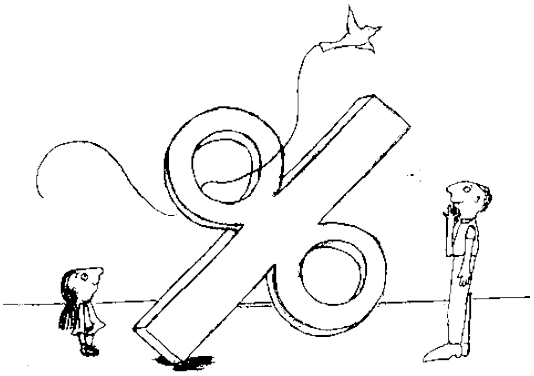
## Calories

A calorie is a unit of energy that measures how much energy a food provides to the body. The number of calories that's listed on the food label indicates how many calories are in one serving.

Calories From Fat
The second number, calories from fat, tells the total calories in one serving that come from fat. The label lists fat so that people can monitor the amount of fat in their diets. Dietitians generally recommend that no more than 30% of calories come from fat over the course of the day. That means that if the food you eat over the course of a day contains 2,000 calories total, no more than 600 of these should come from fat.

Calories Per Gram
These numbers show how many calories are in 1 gram of fat, carbohydrate, and protein. This information must be printed on every Nutrition Facts label for reference.

## Percent Daily Values



Percent daily values are listed in the right-hand column in percentages, and they tell how much of a certain nutrient a person will get from eating one serving of that food. Ideally, the goal is to eat 100% of each of those nutrients each day. If a serving of a food has 18% protein, then that food is providing 18% of your daily protein needs if you eat 2,000 calories per day.

$$360/2000 = 18\%$$

Percent daily value is most useful for determining whether a food is high or low in certain nutrients. If a food has 5% or less of a nutrient, it is considered to be low in that nutrient. A food is considered a good source of a nutrient if the percentage is between 10% and 19%. If the food has more than 20% of the percent daily value, it is considered high in that nutrient.

The actual number of calories and nutrients that your child requires is going to vary according to your child's age, weight, gender, and level of physical activity.[2] For more guidance on this, check with the USDA's Food Guide Pyramid.) So use food labels as a guide to determine whether a food is generally nutritious, but don't worry so much about calculating the nutrients down to the exact ounce of the serving size, as long is your child is healthy and growing well. If you have any concerns about your child's nutrition, talk to your child's doctor.

[2] Keep in mind that the information found on food labels is based on an average diet of 2,000 calories per day.

## Total Fat

This number indicates how much fat is in a single serving of food and it's usually measured in grams. Although eating too much fat can lead to obesity and related health problems, our bodies do need some fat every day.

Fats are an important source of energy - they contain twice as much energy per gram as carbohydrate or protein. Fats provide insulation and cushioning for the skin, bones, and internal organs. Fat also carries and helps store certain vitamins (A, D, E, and K). But because eating too much fat can contribute to health problems, including heart disease, adults and children older than age 2 should have no more than about 30% of their daily calorie intake come from fat.

Saturated Fat and Trans Fat
The amount of saturated fat appears beneath total fat. The FDA also requires food makers to list trans fats separately on the label.

Saturated fats and trans fats are often called "bad fats" because they raise cholesterol and increase a person's risk for developing heart disease. Both saturated and trans fats are solid at room temperature (picture them clogging up arteries!).

Saturated fat usually comes from animal products like butter, cheese, whole milk, ice cream, and meats. Trans fats are naturally found in these foods, too. But they are also in vegetable oils that have been specially treated, or hydrogenated, so they are solid at room temperature - the fats in stick

margarine and shortening, for example. Some cookies, crackers, fried foods, snack foods, and processed foods also contain trans fats.

Saturated fats should account for less than 10% of the calories that a child eats each day, and the amount of trans fat that your child consumes should be as low as possible.

Unsaturated Fat
Unsaturated fats are also listed under total fat. These are fats that are liquid at room temperature. Foods high in unsaturated fat are vegetable oils, nuts, and fish. Unsaturated fats are often called "good fats" because they don't raise cholesterol levels like saturated fats do.

## Cholesterol

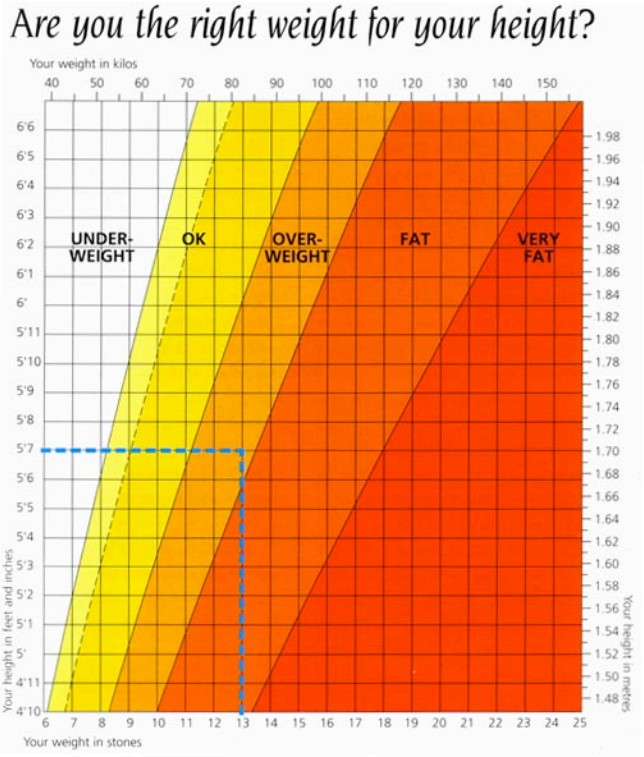
Cholesterol is listed under the fat information - it's usually measured in milligrams. Cholesterol is important in producing vitamin D, some hormones, and in building many other important substances in the body. Cholesterol can become a problem if the amount in the blood is too high, though. This can increase the risk of developing atherosclerosis, a blockage and hardening of arteries that can lead to a heart attack or stroke.

Most of the cholesterol a person needs is manufactured by that person's liver.[3]

## Sodium

Sodium, a component of salt, is listed on the Nutrition Facts label in milligrams. Small amounts of sodium are necessary for keeping proper body fluid balance. Sodium also helps with the transmission of electrical signals through nerves. Too much sodium can contribute to high blood pressure. Almost all foods naturally contain small amounts of sodium. Sodium also adds flavor and helps preserve food. Many processed foods contain greater amounts of sodium.

## Total Carbohydrate




This number, listed in grams, combines several types of carbohydrates: dietary fibers, sugars, and other carbohydrates. Carbohydrates are the most abundant source of calories. Up to 60% of a child's total calories should come from carbohydrates. The best sources of carbohydrates are whole-grain cereals and breads and brown rice. Other sources include pastas, fruits, and vegetables.

[3] Dietary sources such as meat and poultry, eggs, and whole-milk dairy products, also contribute to a person's cholesterol level.

## Sugars

Also listed under total carbohydrate on food labels, sugars are foun-d in most foods. Fruits contain simple sugars but also contain fiber, water, and vitamins, which make them a healthy choice, too. Snack foods, candy, and soda, on the other hand, often have large amounts of added sugars. Although carbohydrates have just 4 calories per gram, the high sugar content in soft drinks and snack foods means the calories can add up quickly, and these "empty calories" usually contain few other nutrients.

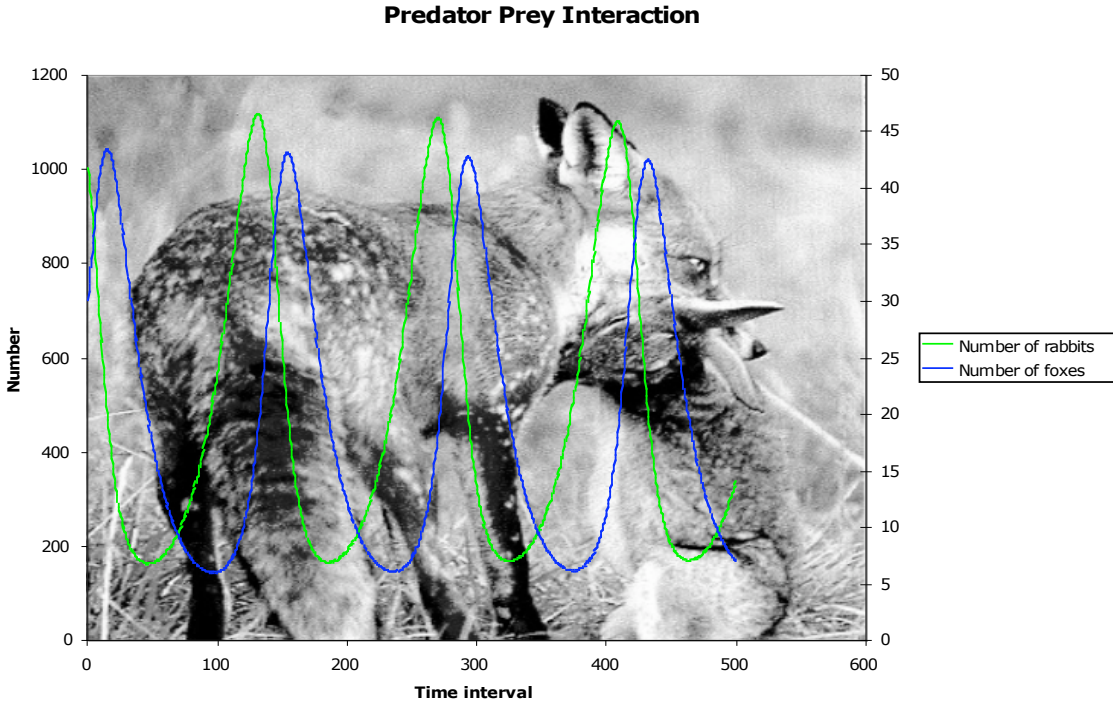
## Protein

This listing tells you how much protein is in a single serving of a food and is usually measured in grams. Most of the body - including muscles, skin, and the immune system - is made up of protein. If the body doesn't get enough fat and carbohydrates, it can use protein for energy. Foods high in protein include eggs, meat, poultry, fish, milk, cheese, yogurt, nuts, soybeans, and dried beans. Anywhere from 10% to 20% of the calories that a child consumes each day should come from protein.

## Vitamin A and Vitamin C

Vitamin A and vitamin C are two especially important vitamins, and that is why they are listed on the Nutrition Facts label. The amount for each vitamin in each serving is measured in percent daily values, so if a food has 80% of vitamin C, you're getting 80% of the vitamin C you need for the day. It's required that food companies list the amounts of vitamin A and C, and if they want to, they can also list the amounts of other vitamins (cereals often do this).

Vitamin A usually appears first on a food label's list of vitamins and minerals. Vitamin A is important for good eyesight and helps maintain healthy skin. It's found in orange vegetables, such as carrots and squash, and in dark green, leafy vegetables. Vitamin C is found in citrus fruits, other fruits, and some vegetables. The body uses vitamin C to build and maintain connective tissues, heal wounds, and fight infections.




## Funk and Jazz

Rebirth Brass Band is one of my favorite bands, from when I lived in New Orleans. "Let Me Do My Thing"

Here is a painting of the band at the Maple Leaf Jazz Club in New Orleans.

## Ingredients

Reading the ingredient list is especially important if someone in your family has a food allergy. The American Academy of Allergy, Asthma and Immunology estimates that up to 2 million, or 8%, of children in the United States are affected by food allergies, and that eight foods account for 90% of food allergy reactions: milk, eggs, peanuts, wheat, soy, fish, shellfish, and tree nuts.[4] Food makers must clearly identify these allergens after or adjacent to the list of ingredients. But foodmakers dont' have to relabel or remove products that were labeled and packaged before 2006. So through the first part of the year, there may be a period of time when packaged food on store shelves doesn't have the warnings about allergens.

In some cases, it's easy to identify what's safe to eat by checking the listed ingredients on a label. However, some ingredients that may trigger an allergy reaction may be listed under an unfamiliar name (for example, "arachis oil" is another term for peanut oil, which would need to be avoided by a person with a peanut allergy). A dietitian can provide suggestions on what foods to avoid, and hidden ingredients to beware of if your child has a food allergy.

[4] Beginning in 2006, food makers are required to clearly state on food labels whether the products contain these allergens.

## Using Food Labels to Create a Well-Balanced Diet

As a parent, you can use food labels to your advantage to plan nutritious and healthy meals for your children. Here are some guidelines to keep in mind:

* Offer your children a variety of foods. By giving your children a variety of healthy foods - including plenty of lean meats and fish, whole grain products, low fat dairy, vegetables, and fruits - you can ensure that they take in a wide variety of nutrients. The U.S. government's 2005 dietary guidelines can help you plan healthy meals for your family.

* Choose a diet low in total fat, saturated fat, trans fat, and cholesterol. Limit total fat intake to no more than 30% of total calories per day.

* Read serving size information. What looks like a small package of food can actually contain more than one serving.

* Limit foods with added sugar.

* Pay attention to the amount of sodium in the foods you buy.

* Choose healthy snacks.

* Be skeptical of low-fat junk food. If the fat has been eliminated or cut back, the amount of sugar in the food may have increased. Many low-fat foods have nearly as many calories as their full-fat versions. Likewise, check the labels of low-carb

versions, which may be high in fat and calories.

Read all the labels on the foods you normally buy and use your new food label savvy to create a healthy, well-balanced diet. It may seem complicated at first, but it's a good habit to pick up, and it will go a long way toward meeting your family's nutritional needs.