

Swapping Bad Fats for Good Health

The need for change bulldozed a road down the center of my mind.
—Maya Angelou (1928–)



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INSIDE THE ALDANA HOME ▶▶ *When I was a child growing up in Idaho, I ate a bowl of ice cream every day after dinner. My parents would buy it in large, three-gallon containers. Because the containers were so big and handy, my mother would save them. The lids made great frisbees and the containers made great drums. On most mornings I ate eggs, bacon, and heavily buttered toast and drank a big glass of whole milk straight from the dairy down the street. Neither I nor my parents ever thought there was anything wrong with the way we were eating. After all, this was the same way my grandparents ate; it was the way my friends ate; it was part of my cultural and family heritage. That was life in Idaho.*

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Other cultures in the United States are not without their high-fat foods. Southerners are known for their hospitality and food that often includes fried foods, barbecue, biscuits and gravy, and lots of meat. Texas is known for its superb cattle industry, which believes plentiful grasses and proper animal care provide the finest steaks in the world.

One of the hardest parts about living a healthy lifestyle is trying to adjust our cultural and ethnic identities to what is known about good health. To most people that means asking, “What do I have to ‘give up’ in order to be healthy?” Well, there is no simple way to achieve good health. It takes some adjustment and change—and, yes, it might even require some drastic changes in the way we live.

For example, to have good health it is not a good idea to smoke. If you do smoke, you should quit—the sooner, the better—and you should never smoke again. You will also need to completely forsake your smoker’s lifestyle. This might mean no longer going to locations where smoking might be a temptation, finding something else to do besides smoke, and maybe even throwing out all your ashtrays, matches, and unused cigarettes. This is a drastic solution to a very dangerous health issue, but it is the best way for the 23% of Americans who smoke to dramatically improve their health.

Humans don’t have to smoke to live, but they do have to eat. Since we have to eat, all that is really needed for a healthier diet is to change the types of foods we eat. I still eat breakfast everyday, but I don’t eat the foods I used to eat, and ice cream is only an occasional indulgence.

The Dietary Fat Hit List

Dietary fat has been on the nutrition hit list for about 20 years. Today we see the battle against fat everywhere we go. Jared, the spokesperson for Subway sandwiches, has been leading the way to healthy body weight by eating low-fat, healthy Subway sandwiches. He claims to have eaten low-fat Subway sandwiches every day and lost over 100 pounds as a result. Lay’s offers potato chips that are baked rather than fried like traditional potato chips; Frito-Lay’s sales of the chips has exploded. There is low-fat ice cream, low-fat chocolate, low-fat salad dressing—just about everything that used to be high in fat now has a low-fat version.

Research in the past had formed a picture of good health, and excessive dietary fat wasn’t in the picture. Studies of the effects of diet on cancer in rodents had shown that different amounts of dietary fat could change the rate at which cancers could grow, and researchers could predict the total number of cancers these animals would get.³ And saturated fat, the type of fat that comes from animals and is solid at room temperature, was shown to have strong ties to heart disease because it increased bad cholesterol.⁴⁻⁶ It was also clear to health experts that the countries that consumed the most fat also had the highest rates of certain cancers and cardiovascular disease,⁷ leading health authorities to start recommending that saturated fat be

Fake fats

Olean is a “fake fat,” which is used in commercially produced foods. The digestive system thinks these fake fats are real fats and tries to digest them but cannot. So while they taste like fat to us, they pass through our digestive systems impervious to our bodies’ attempts to digest them.¹ That these fake fats are so close to the real thing that our bodies are completely fooled is actually an amazing property. But even though fake fats may have some good properties, like taste, it appears they may not be healthy. Research on individuals who have been eating fake fats shows a reduction in the number of phytochemicals in their bodies.² Vitamins and phytochemicals that are in the foods we eat aren’t automatically absorbed into the bloodstream during digestion. To get through the intestinal wall, they have to bind with a fat, which acts like an escort. Together, they cross the intestinal wall and enter the bloodstream. Without fat in your diet, vitamins and phytochemicals can’t get into your blood and help keep you healthy. When phytochemicals and vitamins attach to fake fats, they think they are getting a ride through the intestinal wall and into the blood, but in reality the only ride they are getting is a one-way trip on the porcelain express. And because they are not absorbed by your body, you don’t get any benefit. Though the FDA currently allows fake fats to be used in processed foods, they have yet to allow fast food manufacturers to use them to fry foods. Until the entire effects of these designer foods are better understood, the prudent thing to do would be to avoid them.

limited. Despite intense efforts to make the best recommendations, dietary fat was blackballed and placed on the nutrition hit list with other publicly recognized health concerns, and the message that evolved as a result is that all fats are bad.

This message has been the call to action for many food manufacturers, health programs, and popular diet and health programs, and there has been some success. The Dean Ornish Heart Disease Reversing Program requires program participants to eat a plant-based diet and to limit dietary fat to no more than 10% of all calories.⁸ That is extremely low considering the average American consumes about 34% of total calories from fat. Most Ornish Program participants start the program with advanced stages of cardiovascular disease and if they can exercise, maintain the diet, and practice stress management, there is evidence that they can actually unblock plugged arteries and dramatically improve heart health. Other programs that

appear to have had success with the “all fats are bad” message are the Pritikin Program and the Coronary Heart Improvement Program (CHIP).^{9,10}

Low-fat diets also appear to be helpful for individuals who are trying to lose weight or maintain weight loss.¹¹ There are many individuals who have lost significant amounts of body fat and maintained the weight loss for several years. 3,000 of these long-term weight loss success stories are documented as part of a national weight loss database called the National Weight Control Registry. When asked how they were successful at keeping the weight off, registry members identified two key behaviors: regular physical activity and a low-fat diet. Low-fat diets appear to have some effect on long-term weight loss and cardiovascular disease, but if you seriously consider the more recent nutrition evidence, it is obvious that the “all fats are bad” message needs to be updated.

Fat Increases While Fat Decreases

Under the all-fats-are-bad diet, fats are cut from the diet and have to be replaced with either more protein or carbohydrates. The low-fat diets and health programs mentioned previously aim to replace the fat calories with additional calories from whole grains, fruits, and vegetables. This is a great trade-off. Perhaps that is why these programs have been able to demonstrate improved health and weight loss. However, when the public cuts dietary fat, the fat is most likely replaced with simple carbohydrates or sugars, not health-promoting whole foods.

Since 1965, there has been a decline in the percent of total calories that come from fat. Today, men and women consume approximately 32% of their calories from fat, whereas 40 years ago dietary fat accounted for 45% of all the calories eaten.^{12,13} During this same time period, the percent of Americans who are obese or overweight has been increasing. The decrease in dietary fat and the increase in weight are shown in Figure 7.1. You would think that if people are eating less fat, they would weigh less, but obviously this is not the case when we look at the entire U.S. population.

Physical activity during this time has been relatively unchanged, with only 25% of Americans getting the recommended amount of physical activity. Since 1971, the total number of calories being eaten every day per person has increased by about 168 calories for men and about 335 for women.¹³ That means men are eating an amount equivalent to three apples more and the women are eating the equivalent of five apples more each day than they did in 1971. Most of these increased calories are believed to come

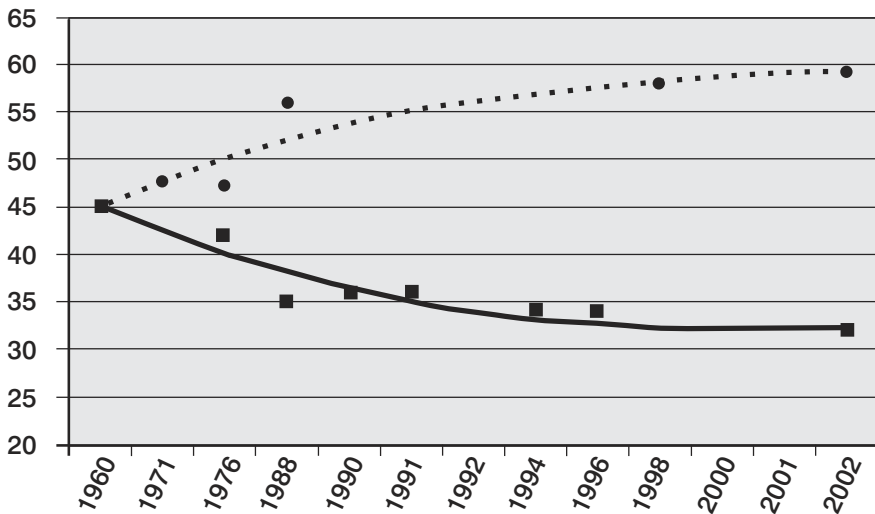


Figure 7.1 Increases in body weight and decreases in dietary fat in the United States. The dashed line indicates the trend in the percent of adults who are overweight or obese; the solid line indicates the trend in the percentage of calories from fat over the same period.¹²⁻¹⁴

from eating salty snacks, soft drinks, pizza, more foods away from home, and increased portion sizes.^{15,16}

Let's try to make some sense of this data. The nation's physical activity has stayed the same, dietary fat has come down, daily calories consumed have increased, and as a nation, we are fatter now than at any other point in history. It is tempting to look at this graph and conclude that the reductions we've experienced in dietary fat are somehow causing the dramatic increases in weight being experienced by Americans. Unfortunately, we don't know if this is the case because there are many other possible explanations for this apparent link.

For example, during this same time frame, food has become more affordable, with even the poorest in our society consuming too many calories. Food has also become more convenient, with the number of fast food restaurants continuing to grow, and the size of food servings has increased dramatically. This period also corresponds to the era of the "free refill."

The number of calories consumed per person has also increased over this same time period, suggesting that the fat that has been reduced in our diets is being replaced with carbohydrates and protein. This substitution does not appear to be an equal trade of calories—it is more of a small reduction in fat calories for a large increase in other calories.

Sorting Out Fats from Fiction

You will recall that there are many phytochemicals in the whole foods we eat—so many that most have yet to be identified. The basic unit of fat is called a fatty acid and, like phytochemicals, there are many different types. Based on their chemical structure, most fatty acids fall into four main categories.

Saturated Fats

Saturated fats have all the hydrogen atoms they can hold. Because they are saturated with hydrogen atoms they have unique properties. Saturated fats generally come from animals and animal products and are solid at room temperature. Butter, shortening, fat trimmed from meat, and high-fat dairy products have saturated fat. Saturated fats raise blood cholesterol, which increases the risk of heart disease and stroke.

Monounsaturated Fats

These fats are really oils. They are liquid at room temperature but get more solid when they are stored in the refrigerator. Chemists call the most common monounsaturated fat *cis-9-octadecenoic acid*. Physiologists call it *oleic acid*. Olive oil is mostly monounsaturated fat. Olive oil can be mixed with vinegar to make an oil-and-vinegar salad dressing. This dressing is liquid at room temperature, but when it's stored in the refrigerator, it starts to solidify and becomes cloudy. When substituted for saturated fat in a person's diet, monounsaturated fats appear to lower blood cholesterol, which means they are actually good for you.

Polyunsaturated Fats

Unless you get these fats from your diet, your body cannot produce them on its own. These fats differ chemically from monounsaturated fats. They are liquid both at room temperature and when kept in the refrigerator. For some reason, polyunsaturated fats actually help lower total blood cholesterol and are heart healthy. One of the most commonly talked about polyunsaturated fats is *4,7,10,13,16,19-docosahexaenoic acid* or *DHA*, a nasty name for what the public calls fish oil. Polyunsaturated fats are also very common in seeds, plant oils, and whole grains.

Trans Fats

These fats are a little different from the ones above. They are polyunsaturated fats that have been altered in a process called hydrogenation. In this

process, healthy vegetable oils are heated to about 400 degrees and hydrogen gas and a metal catalyst are added. This makes the unsaturated vegetable oil accept additional hydrogen atoms, and, presto, what used to be an unsaturated fat is now a saturated fat with special properties. It can be used over and over again to fry food without going rancid, and it has a very long shelf life. Trans fats are found in processed cookies, cakes, fried foods, and bakery goods. Trans fats increase bad cholesterol more than unsaturated fats.

Foods containing the four types of fats			
Saturated fat	Monounsaturated fat	Polyunsaturated fat	Trans fat
cheese whole milk dark chocolate butter ice cream fatty meats coconut milk lard	olive oil canola oil peanut butter almonds nuts avocados sesame seeds pumpkin seeds	safflower oil corn oil sunflower oil soybean oil corn fish walnuts	margarine vegetable shortening any deep-fried foods french fries most bakery goods anything made with shortening or partially hydrogenated vegetable oil



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INSIDE THE ALDANA HOME ▶▶ *Many years ago I was working at Oklahoma State University. My family and I loved living in Oklahoma because everyone was always so nice and friendly. My oldest son had tasted beef spare ribs during dinner at a friend's home and wondered if our family could go to dinner and have ribs. After much pleading, I gave in and took the family to one of the famous barbecue rib restaurants that are so popular in the Midwest. My son ordered a rack of barbecued beef ribs. As he was enjoying his ribs, the juices from the meat and barbecue sauce ran down his arm and made a small pool on the table. He really liked the ribs. As we finished dinner and had some time to visit, my son noticed that the small pool of juice that had dripped down his arm and onto the table had hardened. It looked like wax from a candle; in fact, he thought it was wax.*

This was one of those moments when I was able to explain the difference between saturated fat and unsaturated fat. At cooking temperature, the fat from the ribs was liquid and could run like water, but after it cooled to room temperature, it hardened. If the same pool of juice had been placed in a refrigerator it would have hardened even more.

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Think about the foods you eat during the day. Which ones contain fat and how can you tell? Well, deep-fried foods, bakery goods, butter, high-fat dairy products (like cheese and ice cream), and any food that leaves a shine on your fingers after you eat it are high-fat foods. Salad dressings, fatty meats (like bacon and steaks), peanut butter, and french fries are also high in fat. However, just because a food is high in fat doesn't mean it should be avoided. There are good fats and there are bad fats. The trick is to eat a diet that reduces one and increases the other.

Why You Should Care about Good Fats and Bad Fats

I know this next section may be difficult to believe, but try to forget all the hard work and time you have spent identifying and eliminating high-fat foods from your diet. Try at least to consider the evidence before you make a decision about what you should and should not eat. As we discussed earlier, there is some limited support for the all-fats-are-bad approach to good health. When all fats are treated equally, dietary fat appears to be related to several chronic diseases. But we have discovered that all fats are not the same. Each of the four main types of fat behaves differently.

In 1997, Dr. Frank Hu at Harvard published findings from the Nurses' Health Study that gave a great example of these differences.¹⁷ After following the lifestyle choices of 80,000 women for 14 years, the relationship between dietary fat and coronary heart disease was studied. The diets of all these women were monitored and the amounts of total, saturated, trans, polyunsaturated, and monounsaturated fats were measured. These measures of dietary fat were then used to determine the risk of having heart disease. When the health information from women with high-fat diets was compared to the information from women with low-fat diets, there was no difference in the risk of coronary heart disease. But when the different types of fat were looked at independently, a very different picture emerged.

While polyunsaturated fats reduced heart disease risk by 38% and monounsaturated fats reduced the risk by 19%, both saturated and trans fats increased heart disease risk. Those who ate the most saturated fat had a 17% greater risk of heart disease compared to those who ate the least. Those who ate the most trans fats had a 93% increase in heart disease risk—almost 5.5 times greater than the risk associated with saturated fat. You can guess which of these fats are good and which are bad.

Taken individually, these four types of fat reveal a stark disparity in the way our bodies handle fats (see Figure 7.2). Good fats (polys and monos) tend to offset bad fats (saturated and trans). Past studies of the effect of

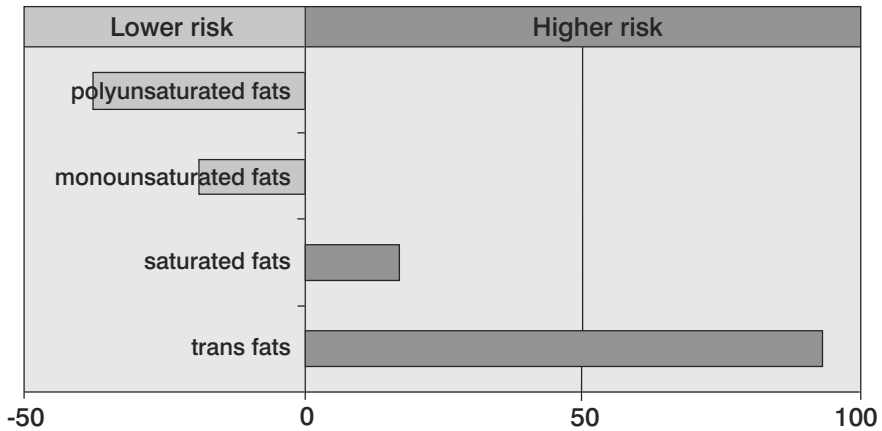


Figure 7.2 Good fats decrease and bad fats increase heart disease risk in women¹⁷

total fat didn't recognize that the benefits of the good fats cancelled out the harmful effects of the bad fats.

Good Fats

Polyunsaturated fats have been studied quite extensively and can be further classified into plant oils and fish oils. Plant oils come from corn, sunflower, canola, and other plant sources such as nuts. Peanut butter is a good source of polyunsaturated fat. Plant oils have shown some remarkable tendencies to protect our bodies from chronic diseases. A diet that includes nuts and peanut butter can reduce the risk of diabetes by 21%.^{18,19} To get this much protection, you would have to eat only about a half a cup of nuts every week. That is not very much if you spread it out over seven days.

Individuals who increase the amount of polyunsaturated fat in their diets experience several changes in their metabolism. Bad cholesterol (LDL) goes down, good cholesterol (HDL) goes up, and total cholesterol can drop by as much as 6%.²⁰ These improvements in blood cholesterol translate into a 12–44% reduction in the risk of heart disease, stroke, and other vessel diseases.^{21–24}

Other studies have looked at how polyunsaturated fats might affect overall health. A study of older adults showed that eating high amounts of polyunsaturated fats could reduce the risk of Alzheimer's disease. The same study showed that those who eat higher amounts of saturated fats and trans fats double their risk of getting Alzheimer's as they age.²⁵ At the present time, there is no clear data showing that polyunsaturated fats

can prevent cancer, and a few studies have even suggested the possibility that polyunsaturated fats may be linked with prostate cancer.²⁶ Obviously, much more research is needed before this part of the fat puzzle is completely understood.

Think of monounsaturated fat as polyunsaturated fat's little brother. They both act in similar ways. Both increase good cholesterol, decrease bad cholesterol, and reduce the risk of cardiovascular diseases. They are both liquid at room temperature, and both can be found in plant oils. It is almost impossible to get one without the other. When you think of monounsaturated fats, think of olive oil, which is mostly monounsaturated fat.

In the 1960s, researchers looked at death and disease rates in different countries and discovered a group of people who, despite having poor medical care, had the longest life spans in the world. They also had some of the lowest rates of heart disease, cancers, diabetes, and obesity found anywhere. These healthy souls were the citizens of Crete, Greece, and Southern Italy, and they all shared a Mediterranean lifestyle.

The traditional diet in these areas consisted of an abundance of plant foods, including nuts, breads, pastas, beans, and fruits and vegetables. The diet also included some fish, poultry, dairy foods, meat, eggs, and wine and was low in sweets. Olive oil was the primary source of fat in this diet, which also had almost no trans fats and was low in saturated fats and high in monounsaturated fats. In the 1960s this was the traditional diet of the general population. Since that time, however, the diet has become increasingly Westernized so that today the traditional Mediterranean diet has become a hybrid diet in which fast foods and processed foods have become a substantial part of the regional diet.

Monounsaturated fats get most of their fame and attention from the health-promoting role they play in the traditional Mediterranean diet. They are believed to be responsible for much of the health benefits experienced in the region.²⁷ Parts of Italy, France, Portugal, Spain, Tunisia, Turkey, and Morocco also enjoy variations of this diet, but few are still completely true to their Mediterranean roots.

The Mediterranean diet appears to prevent chronic diseases in several ways. The good monounsaturated fats help keep blood cholesterol levels and the risk of heart and vessel disease low. An abundance of fruits, vegetables, and whole grains introduces a variety of antioxidants and phytochemicals into the body, which may also help prevent vessel disease, but the diet is also believed to prevent cancers, diabetes, obesity, and

possibly Alzheimer's disease. Additionally, olive oil, fish oil, and other whole foods may decrease colon and breast cancer risk.

One way to really see if the Mediterranean diet is really that good would be to have people adopt the diet and track them across time, which is exactly what French researchers did.²⁸ They convinced 600 men and women who already had heart disease to try either a Mediterranean diet or a diet from the American Heart Association. The 4-year study was stopped after just 2.5 years because the effects of the diet were obvious and there was no need to continue. The group that started on the Mediterranean diet showed a 70% reduction in deaths from all causes—pretty good evidence that the diet is responsible for much of the good health in the Mediterranean region.

Learning from the Eskimos

Years ago, researchers working in the Arctic were surprised to learn that Eskimos rarely die of heart disease despite a diet extremely high in animal fat. It was believed at that time that animal fat was the same among animals and that if you ate a lot of animal fat, you were asking for heart disease; not so among the Eskimos. Since this early observation, much has been learned about the type of fat consumed by Eskimos. It is a type of polyunsaturated fat we refer to as fish oils. Unlike the juicy ribs my son liked so much, the oil from fish, especially cold-water fish like salmon and tuna, does not harden when it reaches room temperature; it is chemically different. The same types of fats are found in smaller amounts in seeds and walnuts and in soybean and canola oils.

These fats help keep the heart beating properly,^{29,30} which might not seem like a big deal—unless you know that many of the heart disease deaths that occur each year are caused by a sudden change in the heart's normal beating. The beat suddenly becomes rapid and irregular, and the first sign that anything is wrong is sudden death. Most sudden cardiac deaths occur this way. We are not exactly sure why, but in humans and in animals, those who eat higher amounts of polyunsaturated fats maintain regular heart beats.

At the time this book was being written, 19 studies had been published that looked at the relationship between fish intake and coronary heart disease.³¹ The participants in these studies were categorized as those who ate fish and those who ate little or no fish. Fish eaters had about 15% less risk of both heart disease and heart disease death; this is believed to be due to the healthy fish oils. These oils also help prevent blood from clotting, which reduces the chance of having a blocked artery, and they improve blood cholesterol.

Several studies that encouraged individuals to eat more of this healthy fat have been published. They all generally agree that sudden cardiac death can be prevented, but that it is unclear if heart attacks in general, cancers, or strokes are affected.^{32,33} The added protection available from eating fish is why fish is included in the Healthy Eating Pyramid shown in chapter 5.

Bad Fats

Figure 7.2 shows the relationship between heart disease risk and the four types of fat. If you were to rank the fats from best to worst, your list would look like this: polys, monos, saturated, and trans, implying that each is only slightly worse than the next. In reality, the scientific evidence available today suggests that trans fats are far worse than the other three, at least as far as heart disease risk is concerned. Most of the research that has been completed in this area has focused on saturated fat, which has been identified as one of the two unhealthy fats that are part of our diets. Saturated fat has received this reputation because study after study has suggested that individuals who have diets high in saturated fat are also at greater risk for heart disease, stroke, diabetes, breast cancer, and maybe colon and prostate cancers.³⁴⁻⁴¹ Saturated fat has also been implicated as one of the causes of Alzheimer's disease⁴² and appears possibly to be associated with schizophrenia.⁴³

The biggest sources of saturated fats are animal products. Red meat and high-fat dairy products like whole milk, cheese, butter, and ice cream are leading sources of saturated fat. From the plant world, palm kernel oil, coconut oil, and coconut milk are also high in saturated fats. Saturated fat is found in other plant oils and plants as well, but in much smaller quantities.

To see how much saturated fat is really in your diet, you have to look at the labels on the foods you eat. We won't spend time learning how to read the labels here, but I highly recommend that you go to the FDA's Web site and use their well-designed guides to learn how to evaluate food labels. (You can find the site on the Web at www.cfsan.fda.gov/label.html.) Food labels tell you how many grams of saturated fat are in each serving of the food you are eating. The best guidelines to date suggest that you should not let saturated fats be more than 10% of all the calories you eat per day.

In general, women should eat no more than 20 grams of total fat per day and men should eat less than 25 grams. Look closely at labels and you quickly see how much saturated fat the food contains. If you have a food you are not sure about, you can most likely find the label on the Web at

www.nutritiondata.com. You can even look up fast foods at this site.

It's time for a little quiz. Here is a label from a popular snack. Evaluate the label for saturated fat and decide if you want to eat it.

Nutrition Facts		
Serving Size: 128g		
Amount Per Serving		
Calories	520	Calories from Fat 189
		%DV*
Total Fat	21g	32%
Saturated Fat	11g	55%
Cholesterol	15mg	5%
Sodium	400mg	17%
Total Carbohydrate	79g	26%
Dietary Fiber	2g	8%
Sugars	29g	
Protein	3g	6%

Can you guess what it is? It's a Hostess fruit pie. One pie contains 11 grams of saturated fat. No, you won't die if you eat it. But if the rest of your diet during the day includes other foods with saturated fats, you will most likely consume too much saturated and trans fats. It's great to indulge in an occasional treat, but keep an eye on the labels; they tell you what you are really eating. Your health is determined by the overall quality of your diet, not by any one item you may eat.

Trans Fats

Research findings in the past few years have identified trans fats as a serious threat to good health. In fact, trans fats are quickly becoming public health enemy number one. Of all the calories Americans eat, just about 3% come from trans fats. Trans fats are manufactured, so they appear most often in processed foods. Of all the trans fats in our diets, half come from cakes, cookies, crackers, pies, and bread. The rest come from animal products, margarine, fried potatoes, potato chips, corn chips, high-fat popcorn, shortening, breakfast cereal, and candy.

Food producers use trans fats instead of healthier unsaturated fats because foods prepared with trans fats stay fresh longer and have a texture most people like. For example, margarine, which is mostly made from trans fats, is softer than real butter and easier to work with. Pie crusts, crackers, and croissants are flakier when made with trans fats, and it is cheaper to fry foods in trans fats because they last much longer than unsaturated frying oils.

If you compare a gram of saturated fats and a gram of trans fats, trans fats impose a risk of heart disease that is 10 times greater than the risk associated with saturated fats. Four very large cohort studies revealed

approximately the same results.^{17,44-46} The consumption of trans fats was positively associated with a 25% increase in heart disease risk.

From 1977 to 1995, the number of heart disease deaths in Denmark was cut by half, and during the exact same time, the entire population of Denmark cut its consumption of trans fats by 75%.⁴⁷ These two trends may be related. Nine different studies compared the effect of saturated fat and trans fats on both good and bad cholesterol.⁴⁸ Both decreased the good and increased the bad cholesterol, but the effect of the trans fats was 2.5 times worse than the effect of the saturated fats, suggesting that saturated fats are bad but trans fats are much worse.

Nuts: No longer dietary bad boys

One of the unfortunate side effects of the all-fats-are-bad message has been the demise of nuts in the American diet. As you've read, nuts are a high-fat food containing mostly good fats, some saturated fats, and no trans fats. In the last 10 years considerable research has shown that nuts might have been unfairly singled out, and they should be reintroduced into the American diet. Nuts and peanut butter have now been identified as having the ability to lower the risk of heart disease and diabetes.^{50,51} Women who ate peanut butter five times a week or more had a 21% reduction in the risk of getting diabetes.¹⁸ A diet that included walnuts caused the arteries of the participants to be more responsive to changes in blood pressure,⁵² and a diet high in macadamia nuts improved blood cholesterol.⁵³

When trying to help patients lower blood cholesterol, doctors are generally quick to prescribe a blood cholesterol-lowering medication. However, in a head-to-head study that compared patients on a healthy diet that included nuts with patients who were only on medication, there was no difference between the two groups. Both the patients on the healthy diet and the patients on the medication saw their blood cholesterol drop about 30%.⁵⁴ The group on the healthy diet also got the added benefits of whole grains, fruits, vegetables, and healthy fats.

There are two concerns often expressed with eating nuts. One is that they may cause allergies in some people, and the other is that they are calorie dense and might cause people to gain weight. Peanuts and nuts that grow on trees can cause allergic reactions in some people. It is estimated that possibly 1% of adults may have an allergic response.⁵⁵ If you are in this group, you may need to monitor your consumption of nuts.

Weight gain from eating a diet with nuts is so far unfounded.^{56,57} In studies where participants were forced to eat diets high in nuts, none of the participants gained weight. Studies that gave people the option of eating a diet with nuts found that participants actually lost a little weight. Even though it appears no one is gaining weight from eating nuts, it still might be safe to substitute nuts for sugars or refined flour already in excess in the diet. Either way, you should start including nuts in your diet; they taste good and they are good for you.

Other studies of trans fats have found no evidence that trans fats can cause cancer, but they may be one of the many causes of diabetes.^{48,49} Armed with this information, the Institute of Medicine has recommended that the intake of trans fats be as low as possible. The minimum amount of trans fats a person can consume and not increase risk is zero.

Where Are the Trans Fats?

If the safe recommended amount of trans fats is zero, the trans fats we currently eat should be identified and eliminated from our diets. How can you know if the food you eat has trans fats? This is where the battle for good health gets complex. Before the health risks of trans fats were known, the food industry had no reason not to use them. After decades of food development and design, many of the processed and prepackaged foods we consume are prepared with trans fats. The fast food and bakery industries depend on reliable, inexpensive frying oil to help them prepare foods. Table 7.1 shows the saturated and trans fats contents of common foods. Total fat grams is the sum of all four types of fats in a food.

Product	Common serving size	Total fat g	Sat. fat g	Trans fat g
French fries	medium	27	7	8
Butter	1 tbsp	11	7	0
Margarine, stick	1 tbsp	11	2	3
Margarine, tub	1 tbsp	7	1	0.5
Mayonnaise (soybean oil)	1 tbsp	11	1.5	0
Shortening	1 tbsp	13	3.5	4
Potato chips	small bag	11	2	3
Milk, whole	1 cup	7	4.5	0
Milk, skim	1 cup	0	0	0
Doughnut	1	18	4.5	5
Candy bar	1	10	4	3

Table 7.1 Fat content of common foods⁵⁸

Unless the foods you eat are listed in this table, you may have no idea if they contain trans fats. Even if you look at the nutrition label, you still won't be able to determine if trans fats are included. That's because food manufacturers are currently not required to list trans fats on their food labels. As early as 1994, the FDA received formal requests that trans fats be listed, but public comment, additional research, and discussion delayed any label changes. Action on the new label requirement wasn't finalized until 2003,

when the FDA gave food manufacturers until January 2006 to have their labels updated. The FDA estimates that three years after the effective date, the new labels will prevent from 600 to 1,200 heart attacks and will save 250 to 500 lives in the first year. This improvement in health will translate into a savings of \$900 million to \$1.8 billion per year in medical costs, lost productivity, and pain and suffering. So for now you only have two options. You can buy foods from food manufacturers that really care about your health and have already changed their labels, or you can read the ingredients and see if the food was made with trans fats. One such label looks like this:

Total Fat	6g
Saturated Fat	0.5g
Trans Fat	0g

As of the writing of this book, Frito-Lay has already included trans fat content on most of its brands, including Lay's, Doritos, Cheetos, Fritos, Tostitos, Ruffles, Rold Gold, and Sunchips. In fact, the fat label above is from a package of Tostitos Corn Chips. Way to go Frito-Lay! They have accepted this new requirement and have reduced or eliminated trans fats from most of their foods. This demonstrates to the public and the best nutrition experts in the world that Frito-Lay is serious about providing healthy foods.

Other food manufacturers, however, may be more concerned with profits than customer health. After all, Altria (formerly Phillip Morris) still advertises cigarettes. Like they really care about your health! Altria also owns Nabisco, which is part of Kraft Foods. Kraft Foods offers a line of food products that is full of saturated and trans fats, many of which are leaders on the saturated and trans fats list of heavy hitters.

In 2003, Kraft was threatened with a lawsuit for its aggressive promotion of Oreo cookies in the schools in California. Just a few days after the suit was announced, Kraft declared that it would reformulate the cookies and make a version without trans fats. Traditional Oreo cookies have 3.5 grams of trans fats per serving, and the new variety has no trans fats. Lawsuits can sometimes bring about needed change. Kraft has also listed trans fats on the label for its Triscuit crackers and has produced a version that is free of trans fats. Progress is being made, but a company like Kraft has a lot of work to do before its food products can really promote and not threaten health.

Much of the food industry fought against the new labels that require information about trans fats, but it appears that public health is eventually

going to overcome food industry protectionism. For a rather chilling view of the aggressive tactics of the food industry, I suggest Marion Nestle's book *Food Politics*.

I predict that within the next few years, someone will sue a school district because the schools provide only unhealthy fast foods and candies in their vending machines—mostly soft drinks and foods that are high in trans fats and saturated fats. The schools maintain very lucrative contracts with the vendors, and the children at the schools are given very few healthy options from vending machines. However, because many schools are unwilling to remove the unhealthy foods for fear of losing the vending profits, they may be guilty of a failure to provide a safe school environment. Several leading pediatric medical journals have warned pediatricians about this very issue, but I'm not sure schools are able to look past the money to hear the message.^{59,60} I hope they start to make voluntary changes without painful and expensive litigation.

Perhaps the only group of food producers that are going to get away without a scratch are those in the fast food industry. Since the food is purchased hot, it is not required to have a nutrition label and customers will never really know about the foods' trans fats content. Think of all the fried foods in American fare: french fries, onion rings, corn dogs, popcorn, seafood, chips, and, oooh, those bakery goods. Maple bars, doughnuts, croissants, éclairs—all of them are deep fried in trans fats. The only way you would know would be if you were to see a list of the ingredients.

The food label and ingredients list included below is for an American icon—the glazed doughnut. The label shows that one doughnut has 13 grams of fat, of which 3 grams are saturated fat. So far it doesn't look really bad except that the other fat grams are not accounted for. Surely there must be some healthy fats in there, but you can't tell from the label.

The clue to this mystery is in the ingredients list. Bolded you will see “partially hydrogenated soybean and/or cottonseed oil.” On another label it might say “vegetable shortening” or “partially hydrogenated vegetable oil,” but this is your sign that trans fats are used to make the food. The closer it is listed to the beginning of the ingredients list, the more of it there is in the food. The ingredients for this doughnut include bleached flour, dextrose (used to get the yeast to work well), and trans fats. From Table 7.1 you can see that a simple doughnut has 5 grams of trans fats.

Take a look at the label of your favorite peanut butter. All the popular brands list trans fats in the ingredients, but the trans fat content of the peanut butter is so low that even when the new labeling requirements are

Nutrition Facts

Serving Size 1 Doughnut (52g)
Servings Per Container

Amount Per Serving

Calories 200 Calories from Fat 110

% Daily Value*

Total Fat 12g **18%**

 Saturated Fat 3g **15%**

Cholesterol 5mg **1%**

Sodium 95mg **4%**

Total Carbohydrate 22g **7%**

 Dietary Fiber less than 1g **2%**

 Sugars 10g

Protein

Vitamin A 0% • Vitamin C 2%

Calcium 0% • Iron 4%

Ingredients: Enriched bleached wheat flour (contains bleached wheat flour, niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid), dextrose, **vegetable shortening (partially hydrogenated soybean and/or cottonseed oil)**, water, sugar, soy flour, egg yolks, vital wheat gluten, yeast, nonfat milk, yeast nutrients (calcium sulfate, ammonium sulfate), dough conditioners (calcium dioxide, monocalcium and dicalcium phosphate, diammonium phosphate, sodium stearyl-2-lactylate, whey, starch, ascorbic acid, sodium bicarbonate, calcium carbonate), salt, mono- and diglycerides, ethoxylated mono- and diglycerides, lecithin, calcium propionate (to retain freshness), cellulose gum, natural and artificial flavors, fungal alpha amylase, amylase, maltogenic amylase, pentosanase, protease, sodium caseinate, corn maltodextrin, corn syrup solids and BHT (to help protect flavor).

enforced, you won't see any trans fats listed on the label.⁶¹ The amount of trans fats in peanut butter is below the amount needed to be listed. So go ahead, smear some peanut butter on that sandwich.

McDonalds restaurants announced in 2002 that they were going to introduce a new cooking oil into all of its restaurants. The oil is supposed to have half the amount of trans fats as their previous frying oil. Two years later, the change hasn't happened. Hopefully it will.

Trading Calories

You can add more poly- and monounsaturated fats to your diet by eating more foods that contain these fats, but that would increase the number of calories you eat and possibly cause you to gain weight. Instead of adding these fats to your diet, a better way would be to substitute good fats for bad fats. The average man eats about 2,700 calories a day and the average woman eats about 1,800 calories. Most of these calories (52%) come from carbohydrates, and 14% comes from protein. The rest of the calories (34%) come from the four different fat sources. The pie chart in Figure 7.3 shows the sources of the calories we eat.

When substituting bad fats for good fats, you get a double benefit. First, trans and saturated fats would be reduced and unsaturated poly and

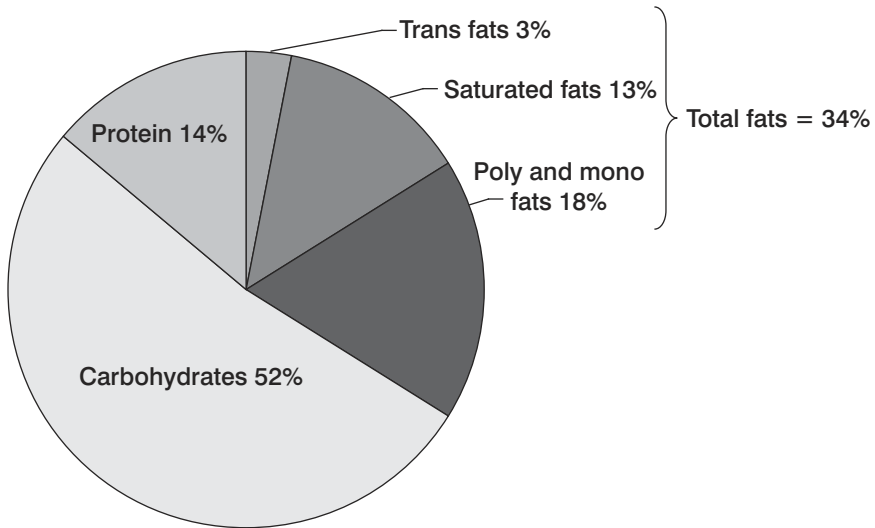


Figure 7.3 Sources of the calories we eat^{12,62}

mono fats would be increased. And second, when you reduce the fats that increase your risk of chronic disease. Suppose you decided to reduce the amount of saturated fat in your diet by 5% of total calories and increase the unsaturated part by the same amount. You could do this if you avoided high-fat dairy products and fatty meats and ate more plant oils. Data from the Nurses' Health Study show that the health benefits of this substitution would reduce your chances of heart attack and death by 40%.⁶³ If you substituted just 2% of total calories from trans fats with the same amount of good fats, you could reduce your risk by 50%. In other words, replacing most dietary trans fats with healthy fats could potentially prevent 347,877 heart disease deaths per year.^{63,64}

I do not wish to be the bearer of bad food news. On the contrary, the purpose of this book is to share with the public what researchers already know—the research that is reported in scientific journals rarely trickles down to the public unless someone puts it into understandable English and finds a way to make it applicable to real people living real lives. In that regard, I'm just a messenger.

POINTS TO REMEMBER:

- The all-fats-are-bad approach to eating may be like throwing out the baby with the bath water.
- There are both good and bad fats; the best are fats from plants and nuts and the worst are saturated and trans fats.
- Americans are eating less fat but getting more calories.
- Eliminate trans fats from your diet and try adding more healthy fats.
- Use the new food labels; they will help you avoid trans fats.