here’s a precise, if seemingly contradictory, way to describe the average guy: skinny-fat. Of course, you might think “fat-fat,” or simply “fat,” apply better to what you see in the mirror. But chances are, the word “skinny” is quite relevant, too.

Why? Because most men lose muscle with every passing year. So even though you may not look skinny, technically you are—at least when it comes to your muscle.

Case in point: Without even realizing it, the average guy loses 6 pounds of muscle between the ages of 30 and 50. For perspective, that’s about the same amount of muscle on your right arm.

Now keep in mind, muscle doesn’t turn to fat. But lose it, and it will likely be replaced by fat over time, according to a study in the *American Journal of Clinical Nutrition*. Trading muscle for fat not only makes you look flabby, but it also increases your pant size—even if you somehow manage to keep your scale weight the same. The reason: Each pound of fat takes up 18 percent more space in your body than each pound of muscle.

It gets worse: Fat cells secrete hormones that signal your body to break down muscle tissue. So the more fat you gain, the greater your risk for muscle loss over time. All of which creates a perpetual cycle that leads to even more fat and less muscle. The end result: skinny-fat.

This also helps explain why weight gain seems to sneak up on so many people. Sure, it may sometimes feel like it happens overnight, but adding notches to your belt usually occurs over time. Our colleagues at the University of Connecticut determined that men, on average, gain about a pound of body weight annually from ages 25 to 45. See the problem? An extra pound each year is hardly noticeable on a month-to-month basis, but one day, you
suddenly realize that you’re carrying around 20 more pounds of flab than you did in high school.

So why does this now seem to be the norm, despite the fact that most Americans are more health conscious than ever? The simple answer is that the way you’ve been taught to eat and exercise is nearly the exact opposite of what science actually shows to be most effective—for both losing fat and building muscle. And this really shouldn’t be surprising. The majority of health and nutrition experts—yes, even those you see on television—promote methods that aren’t supported by scientific research, or even by the most basic laws of human metabolism and physiology. But to fully understand the reason, we’ll first need to introduce you to glycogen.

THE SECRET REASON YOU’RE FAT

Glycogen is the name for carbohydrates that are stored in your muscles. An easy way to understand glycogen is to picture it as a storage tank for sugar, the form of carbohydrate your body uses for fuel. So just as you have fat stores, you also have sugar stores. However, unlike your fat stores, which are able to expand (read: you can get fatter and fatter), your glycogen tank has a limited capacity to store sugar. For instance, think of your car: If you own a midsize, you probably have about a 14-gallon fuel tank. Try to fill it with 20 gallons, though, and the other 6 would spill out onto the pavement. It’s the same way with sugar and your glycogen tank.

And therein lies the problem: A full glycogen tank signals your body to use incoming carbohydrates for energy instead of your stored fat. Otherwise, your glycogen tank will overflow. As a result, your body not only stops burning fat, it starts conserving it—just in case of starvation. This is one of the main reasons for America’s growing obesity problem. Because most people’s diets are excessively high in carbohydrates, their glycogen levels are always at peak capacity. In turn, their bodies won’t allow them to use their stored fat for energy.

What’s more, there are also serious health ramifications to perpetually high glycogen levels. When excess carbohydrates from your diet can’t be stored as sugar in your glycogen tank, the overflow causes sugar to build up in your bloodstream. The result: chronically high blood sugar, which can damage the large blood vessels of your heart and brain, and the small vessels of your kidneys and eyes. As a consequence, your body starts shuttling the overflow of sugar to your liver, where it’s then converted to a blood fat
known as triglycerides. If you’ve ever had blood work done, you might recognize triglycerides as one of the measurements that your doctor ordered. And for good reason: Elevated triglycerides are a risk factor for heart disease and an early predictor of future diabetes. To make matters even worse, once sugar becomes triglycerides, or fat, it can be stored as fat. Ever been told carbs can’t make you fat? Think again.

Now, there are probably lots of reasons why people have gotten so far off track—the misinterpretation of data from nutrition and exercise studies, valid scientific research that’s been ignored or dismissed, the influence of politics and special interest groups, and, in some cases, just good intentions gone bad. But the key to getting back on course is understanding exactly why much of what you’ve been told about diet and exercise is wrong. And your re-education starts now.

You’ve Been Told: “Follow the Food Guide Pyramid.”

The Origin: In 1980, the United States Department of Agriculture (USDA) published its first set of dietary guidelines for Americans, which recommended a carbohydrate-based diet. And, in an effort to make the guidelines easier for the public to understand, they released the original Food Guide Pyramid in 1992. As a general rule of thumb, people were told to consume six or more servings of grain products—bread, cereals, pasta, and rice—each day. These are essentially the same recommendations that we are given to this day.

What Science Shows: If you look at dietary intake in the United States over the last three decades from the National Health and Nutrition Examination Surveys (NHANES), you’ll notice an interesting pattern. In men, average daily energy intake during the early 1970s was 2,450 calories. But by the year 2000, that number had increased to 2,618. An even greater increase in calories was seen in women. Where did these extra calories come from? According to the NHANES data, it was almost exclusively derived from carbohydrates. Interestingly, there were minuscule changes in the intake of protein and fat.

So sure, people are eating too much. But they’re eating too many carbohydrates, not too much protein and fat. And that’s a glaring problem with the
government’s nutrition recommendations—one that’s seemingly being ignored. For example, in 2005, the USDA unveiled a new food guide pyramid, now called MyPyramid. Despite the steep rise in obesity with the previous guidelines in place, there were very few changes made to the pyramid’s overall philosophy. (See “A Pyramid Scam?”)

You’ve Been Told: “Always exercise in the fat-burning zone.”

The Origin: In 1993, University of Texas researchers determined that you burn a greater percentage of calories from fat during light- to moderate-intensity exercise than you do when you exercise at a high intensity. In fact, the rate your body burns fat peaks at about 65 percent of your aerobic capacity. For most people, that’s equivalent to a walk or jog in which your effort is

A Pyramid Scam?

When MyPyramid (www.mypyramid.gov) was released in 2005, it was applauded for two reasons: First, because it included the “revolutionary” recommendation to exercise. And second, the pyramid could now be customized to suit a person’s body type and level of activity.

This actually sounds useful, and a step in the right direction, but let’s see what kind of information the customizable food pyramid provides us with. Since the average American male is about 31 years old, 5 feet 9 inches, and 180 pounds, we entered those numbers into the MyPyramid calculator, which can be found on its Web site. Then, for activity level, we chose less than 30 minutes a day, since that’s most representative as well. According to MyPyramid’s computation, the average American man needs eight servings of grains a day. To put that in perspective, that’s the equivalent of eight slices of bread or 8 cups of, say, Cheerios. That’s a lot of carbohydrates, and ask any expert what the main (and really only) function of carbs in your diet is, and he or she will correctly say, “to provide energy.” But now consider: Isn’t reducing energy precisely what most people need to do in order to lose weight? The logic doesn’t jibe. This is the first indication of exactly how “unfit” the MyPyramid actually is. After all, does anyone really need eight slices of bread a day? Of course not. In fact, we’d suggest that if you want to keep your glycogen levels topped off, the USDA is telling you exactly how to do it.
such that you can still talk easily. Exercise harder than that, though, and the percentage of calories you burn from fat goes down, while the percentage of calories burned from carbs goes up—it’s a sliding scale. This finding was appealing because it seemed to suggest that easier exercise—for instance, a slow jog—was more effective at burning fat than harder exercise, such as vigorous weight training or 400-meter sprints.

**What Science Shows:** You lose fat faster by exercising in the carb-burning zone. This is when you’re exercising hard, often going nearly all out for 30 to 60 seconds at a time. There are two reasons for this. The first is that even though you burn a lower percentage of fat during this type of high-intensity exercise, the total amount of fat you burn is similar to that of light and moderate activity. That’s because the harder you go, the more calories per minute you burn. So even though the percentage of fat you burn is smaller, it’s in relation to a bigger number of total calories. Think of Kobe Bryant on a poor shooting night: He may only hit 35 percent of his shots, but he’ll often launch enough jumpers to still be the game’s leading scorer.

The second reason: If you primarily burn fat during exercise, you’re automatically burning fewer carbohydrates. That means you’re not significantly reducing your glycogen levels. And this diminishes your ability to burn fat when you’re not exercising. However, exercise in the carb-burning zone, and you’ll deplete your glycogen tank. This will allow you to burn more fat while you’re sitting at your desk and lounging on your couch.

The upshot is that the harder you exercise, the more glycogen you burn. Interestingly, German researchers reported this very same finding in 1934. So this isn’t new science. It’s just a better interpretation of the science as it relates to fat loss.

**You’ve Been Told:** “Fat makes you fat.”

**The Origin:** Years ago, in an effort to help people control their weight, government health officials and nutritionists recommended a simple solution: Cut back on fat. And in 1990, they put a number on it, recommending that fat should make up no more than 30 percent of a person’s total daily calories. From a mathematical perspective, it seemed logical: Both carbohydrates and protein contain about 4 calories per gram; fat contains about 9 calories per
8 The Basics

gram. So the theory was that decreasing fat intake would lead to a greater reduction in calories than cutting back on the same amount of carbs. But over time, the message simply became, “Fat makes you fat.”

What Science Shows: Fat, itself, doesn’t make you fat. For example, in our lab at the University of Connecticut, we’ve shown that people who eat 60 to 70 percent of their calories from fat lose weight faster than those who eat just 20 percent of their calories from fat.

Of course, eating an overabundance of calories—from fat or anything else—will make you fat. So although the original idea to limit fat intake might have made sense on paper, it mistakenly assumed that people wouldn’t replace fat calories with even more calories from glycogen-filling carbohydrates. In fact, a 2002 review from the USDA Human Nutrition Research Center at Tufts University found that consuming highly processed carbohydrates such as white bread, pasta, and rice, as well as sugar—approved staples of traditional guidelines for a low-fat diet—promotes an increase in total calorie consumption. And don’t forget that the calories that have been added to the daily American diet since the 1970s were almost entirely composed of carbohydrates.

One reason for this failed experiment: Fat is a powerful satiater, keeping you satisfied for a longer period of time after you eat than carbohydrates. So it’s likely that as your fat intake is reduced, and replaced with carbs, your hunger will increase.

Another important factor: Carbohydrates raise your blood levels of insulin, a powerful hormone that stimulates your body to stop burning—and start storing—fat. So when you eat lots of carbohydrates—as the typical American does, or as you would on a low-fat diet—your ability to burn fat is inhibited, impairing fat loss. On the other hand, low-carb diets, which are high in fat, keep your insulin levels low, allowing your body to break down stored fat for energy.

You’ve Been Told: “Eat carbs for energy.”

The Origin: In the 1960s, researchers demonstrated the importance of glycogen as a fuel for high-level athletes during prolonged exercise—such as long-distance running. For instance, the scientists determined that high
glycogen levels were associated with better endurance performance than low glycogen levels. As a result, elite athletes were encouraged to eat lots of carbohydrates after they worked out, in order to replenish glycogen for the next day’s training session or competition. The idea, of course, was to ensure optimal performance. And eventually, this advice trickled down to the average Joe.

**What Science Shows:** Although it’s true that glycogen can be an important fuel source for peak athletic performance, emerging research is challenging the theory that it’s merely a storage form of carbohydrate. That’s because, as we’ve touched on briefly, the level of your glycogen tank has a major impact on your ability to burn fat and on your metabolic health. We’ll delve into the science fully in Chapter 2, but the important point is this: What helps a world-class marathoner run faster has nothing to do with helping the average guy lose fat. After all, Olympic marathoners burn several thousand calories a day. So unless you exercise like an athlete, eating like an athlete simply doesn’t apply.

That’s not to say that consuming the right amount of carbohydrates after your workout can’t have benefits—it can. And we’ll explain exactly how throughout the course of this book. However, stockpiling carbs is extremely misguided advice for the average person who consumes the typical American diet.

**You’ve Been Told:** “Fat-free foods are good for you.”

**The Origin:** For most of the last three decades, major health organizations such as the American Heart Association and the American Diabetes Association have warned that consuming fat, and particularly saturated fat, raises your risk for heart disease. As a result, fat phobia swept the nation, and even those who weren’t dieting started to avoid fat for fear of “clogged arteries.” This also created a grand opportunity for the food industry: new product categories, such as fat-free, low-fat, and reduced-fat foods.

**What Science Shows:** The connection between fat, even saturated fat, and heart disease has never actually been demonstrated. (See Chapter 13 for a complete explanation.) In fact, research from our lab as
well as many others shows that replacing carbohydrates with fat—any type of fat, including saturated—actually lowers your risk for cardiovascular disease. As a result, even the highly conservative American Heart Association no longer suggests an upper limit for total fat intake, only for that of saturated fat. Yet fat-free and low-fat foods have remained staples of the American diet.

Why? Because the idea that fat is evil has become entrenched in the average person’s psyche. If that describes you, consider this logic:

1. Fat-free foods are healthy.
2. Skittles are fat-free.
3. Therefore, Skittles are healthy.

Make sense? Of course not. But it’s exactly the type of reasoning that food manufacturers want you to use.

You see, in our example, we started with a false premise. That’s because the term fat-free is often code for high-sugar—an attribute that makes a product the opposite of healthy. For instance, Johns Hopkins University researchers recently determined that high blood sugar is an independent risk factor for heart disease. So high-glycemic foods—those such as sugars and starches that raise your blood sugar dramatically—are inherently unhealthy when eaten all the time. Of course, the other effect of high-sugar foods is that they replenish your glycogen stores and raise your insulin levels, both of which inhibit your ability to burn fat.

Unfortunately, many food manufacturers depend on the success of faulty food logic. After all, lots of people assume that if a food is “healthy” or “fat free” then it won’t cause weight gain. So they’ll be more likely to indulge in, say, low-fat potato chips than the regular version, even though the former contains more glycogen-filling carbohydrates. (Manufacturers typically remove fat only to replace it with carbs, often in the form of sugar.) In fact, Cornell University researchers reported that when overweight men and women thought they were eating low-fat M&Ms, they consumed 47 percent more calories than those who were given regular M&Ms. The kicker: The only difference between the candies was the label—they were all regular M&Ms. The scientists also determined that, on average, low-fat foods contain 59 percent less fat, but only 15 percent fewer calories than full-fat products.
You’ve Been Told: “Running is the best way to lose weight.”

The Origin: In 1977, Jim Fixx published *The Complete Book of Running*. This best-selling book popularized the notion of running to improve health and lose weight, and is widely credited with kicking off the jogging boom of the 1980s. Furthermore, most exercise scientists during this time were recreational or competitive runners themselves. As a result, running and other types of endurance activities were the type of exercise that was most often studied, particularly in terms of health benefits (and there are many).

And because these researchers reported that running burns a lot more calories than weight training—while requiring nothing but a pair of functional legs—the majority of experts began to widely promote it as the best mode of exercise for fat loss. However, they didn’t—and still don’t—have the data to support that assertion.

What Science Shows: First, it’s important to point out that engaging in a regular running program, or any kind of exercise for that matter, without also adopting a prudent diet is a very inefficient way to lose weight.

The Corporate Fatness Center

We’re not sure, but we think we coined this term—and it’s certainly relevant. Working long hours in an office setting is a major contributor to the modern male’s ever-expanding waistline and shrinking muscles. For instance, a recent Australian study of 1,579 people found that men whose jobs require more than 6 hours of chair time a day are 68 percent more likely to wind up overweight than those who sit less. And University of North Carolina–Wilmington researchers discovered that, on average, people gain 17 pounds within 8 months of starting a sedentary office job.

Which, of course, is why health clubs were invented. Trouble is, only 19 percent of men regularly perform high levels of physical activity outside of work, according to the National Center for Health Statistics. What’s more, Norwegian scientists determined that people with the highest job demands had the worst exercise habits. So all of this, combined with a high-carb diet, means you never have to dip into your glycogen tank. As a result, your body burns as little fat as possible.

Don’t worry, though: By instituting the principles of the TNT Diet, you’ll be able lose your gut for good—and without having to quit your day job.
weight. After all, a typical fast-food double-decker cheeseburger and large fries contain more than 1,100 calories—a meal most red-blooded American men can wolf down in less than 5 minutes. However, to *burn* that many calories, the average guy would have to run for 53 minutes at an 8⅛-minute-per-mile pace. Which is why your diet has a greater impact on total weight loss than exercise.

As we’ve already discussed, though, it’s not simply weight loss that’s important—it’s the quality of your weight loss that matters most. That is, the amount of your weight loss that’s pure fat, since that’s what really counts. Perhaps surprisingly, endurance exercise—such as running, cycling, or walking—does little to further augment fat loss when combined with a good diet. Weight training, however, has a dramatic impact. Consider a study we conducted back in 1999. We put overweight men on a diet that was approximately 1,500 calories a day, and then divided them into either a diet-only group, a diet group that also performed endurance exercise, or a diet group that performed both endurance exercise and weight training.

After 3 months, men in each of the groups had lost almost the same amount of weight—about 21 pounds. But the quality of their weight loss was much different. The men in the weight-training group lost 5 pounds more fat than the other two groups. You might wonder how that’s possible when they all dropped the same amount of weight. The answer is that the men who dieted or dieted and performed only endurance exercise lost about 15 pounds of fat, but also lost several pounds of muscle. Those who lifted weights lost almost pure fat.

You see, weight training is a powerful tool when it comes to fat loss. Because it stimulates your muscles to grow, your body is less apt to part with your hard-earned muscle. This is crucial because the more muscle you have, the bigger your body’s fat-burning furnace. What’s more, if you lose muscle, you not only reduce your ability to burn fat, your glycogen tank becomes smaller. (Remember, most of your glycogen is located in your muscles.) So you have less room to store carbohydrates, increasing the likelihood that they’ll be converted to fat in your liver. Endurance exercise provides none of these benefits.

But what about the fact that running burns more calories than weight training? Turns out, when scientists at the University of Southern Maine used an advanced method to estimate energy expenditure during exercise, they found that weight training burns as many as 71 percent more calories than originally thought. In fact, the researchers calculated that performing
just one circuit of eight exercises—which takes about 8 minutes—can expend 159 to 231 calories. That’s about the same as running at a 6-minute-per-mile pace for the same duration. And just as important, research shows that weight training, unlike endurance exercise, can elevate your metabolism for up to 39 hours after your workout session.

**HOW TO LOSE YOUR GUT FOR GOOD**

If you’ve been paying attention, you already know the answer: Use the opposite approach to what you’ve been accustomed to. That means taking measures—read: the right diet and exercise program—to reduce glycogen. This triggers your body to start using fat as its primary source of energy, accelerating the rate at which you lose belly flab. In fact, it’s scientifically proven that this strategy preferentially reduces abdominal fat in men. Even better, it helps to spark nutrient partitioning, an effect that allows you to simultaneously burn fat and build muscle. Ready to find out how? Turn the page.
TNT TRANSFORMATION

“No, I’m not taking steroids!”

Name: Keith Suthammanont
Age: 21
Height: 5 feet 9 inches
Weight before: 185
Weight after: 165

As Keith Suthammanont knows, the truth can hurt—but sometimes it’s exactly what you need to hear. “When I was 18, I showed up to a family function wearing a form-fitting shirt, and one of my aunts said, ‘I guess you’re going to be the chubby brother,’” says Keith. “This lit a fire under me because, for her to say something, I must have really let myself go.”

As a result, Keith decided to give TNT a shot. In a matter of weeks, he lost 20 pounds of fat, and sculpted his skinny-fat physique into a defined, muscular body. The speed of his results didn’t go unnoticed. “Following my weight loss, people starting asking me how I did it,” he says. “And from time to time, I’d even get accused of taking steroids! While that was frustrating, it was also flattering, because I realized that people were really noticing the changes I’d made.”

Three years after his physical transformation, TNT is still having a major impact on Keith’s life: The experience he had improving his own health and fitness inspired him to help others do the same. As a result, Keith now makes his living as a personal trainer. And we say every client he has is lucky: After all, who better to learn from than a guy who’s been where you are, and has gotten to where you want to be?