

A Calorie is a Calorie...

Or is it?

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It may be that most Americans are obsessed with being thin, but if you look around you'll see that most are overweight. In fact, at least one-third of the adult American population is approaching obesity (depending upon height, at least 20 to 30 pounds overweight), and nearly one-half are considered overweight. This is more than a 10% increase from the 1980's, and the number continues to climb.

We also know that several potentially catastrophic diseases can arise from being overweight. For example, coronary heart disease (CHD) and diabetes are now both definitely linked to an expanded waistline. We also know that those wanting to partake in athletics will definitely be at a disadvantage carting around more non-muscular body weight than they should.

So how do we reduce our nation's fat and your waistline? Consistently inserting moderate to vigorous exercise in the daily/weekly schedule is a proven way to fight the bulge. But if you don't follow a low-fat diet, in conjunction with your regular exercise program, you may be waging a losing "battle of the bulge."

There has arisen of late a major dietary controversy over what type of foods (or which type of diet) actually causes the most harm in regards to increasing body fat. Atkin's Diet followers believe that it is mainly carbohydrates (simple and/or complex) that produce the unwanted fat, while consuming fatty dishes and protein at will is the way to body leanness. There have been weight-loss situations on the Atkin's Diet; enough so as to make many stop and consider is this a possible avenue to permanent weight loss. They should also ask the big question: is this the safest way to a permanent ideal body weight?

To lose weight, the obvious should be clear: take in less calories than you burn up with activity; or to put it in a more logical way: burn up more calories than you take in throughout the day, the week, the year. By this I mean consistency. Going on a diet should not be the goal of the weight-loss seeker; entering into a life-style change in eating describes what should be the intended objective.

Many health professionals say you have to go on a low-calorie diet to lose weight; true but too simplistic. They say "A calorie...is a calorie...is a calorie" and "All excess calories will be stored as fat." Be cautious of these warnings. They are only half-truths, and are not the main issue when dealing with weight control. You do not eat calories, per say; you eat carbohydrates, fat, and protein. And each of these food groups are utilized and stored differently by the body.

What is a Calorie?

A kilocalorie (Kcal...1000 calories) or what we conveniently refer to as a calorie, is a measure of heat energy. Scientifically, it represents the amount of heat needed to raise the temperature of one kilogram of water (slightly more than a quart) by one degree Celsius. For example, a can of chicken noodle soup with 90 calories per serving has the chemical energy in one serving to raise the temperature of 90 quarts of water by one degree Celsius, or 1 quart of water 90 degrees. But if the can of soup is actually chemical energy that produces heat, what happens when you eat it?

Where Does It All Go?

The protein in the soup (coming mostly from the chicken), which equals four calories per gram, is broken down and then reassembled to replace protein in your body lost by routine cell turnover, especially in the muscles. Some of the protein is also used to make enzymes and other key chemicals needed to make your metabolism work

Suppose you add up all the protein in your daily diet, and it comes to more than your body needs. What happens then? The calorie counters say it is all turned into fat. But this would call for some monumental biochemical processes to occur, and the scientific literature does not support this type of metabolism. What happens is that the excess protein is oxidized, which means it is burned off and converted to compounds that are eliminated from the body (assuming the kidneys are up to the task).

What happens to the fat in your soup, and from the other foods you eat? Some replaces lost tissues such as cell membranes and certain cells in your nervous system. The rest is first utilized as energy for body function and movement. But since fat is the highest food energy source (providing nine calories per gram), it is quite easily stored as such by the body for later use. Nature has always provided this biochemical energy pathway. The trouble with all this is that the body's ability to store fat is seemingly limitless. People who consistently eat more fat than they can burn up keep storing it day after day...getting fatter and fatter.

The fate of the carbohydrate in the chicken soup (coming from vegetables and pasta), and from the rest of the daily food intake is more interesting. A little carbohydrate (CHO) is utilized in cell turnover, but the majority is consumed for muscular energy. Although it only produces four calories per gram, carbohydrates provide the "high-octane" readily-usable fuel the body needs to move through all the demands we choose to put it through. Thus, a diet consisting predominately of carbohydrates will provide plenty of energy upon demand.

What if you eat too much carbohydrate? The calorie counters say it is simply turned into fat. However, the scientific literature tells a different story. Some extra carbohydrate can be stored as glycogen, which is the breakdown product of carbohydrates and the storage component of glucose; glucose is the prime energy source the body seeks to move muscle and everything else attached to same. This glycogen is stored somewhat in the muscles proper for an increased ready supply of energy and stored to a greater extent in the liver, which is the second line of defense against energy drain.

If one eats more carbohydrates than the body can store, the rate of oxidation increases. The body "turns up the heat" and the basic metabolic rate (BMR) is raised burning carbohydrate faster. Only when the body has filled all possible stores and turned up the burners full blast can it begin converting some of the extra carbohydrates into fat. And by this time, very large amounts of food would have had to be consumed.

Results from clinical nutrition studies show that the conversion of carbohydrate to fat in healthy physically active people is minor, compared to storage of dietary fat. The body only readily converts carbohydrate to fat if the body is deprived of fat, or it needs more fat as in the third trimester of pregnancy, or it has MUCH more caloric intake than it needs on a daily basis.

What has come to be of tremendous benefit to those who train intensely on a regular schedule is the scientific discovery that a certain proportion (4:1) of carbohydrate to muscle-friendly protein (whey) can have a synergistic effect in powering the muscles and allow them to recover faster and more completely than they would otherwise be able with carbohydrates alone.

What Should You do?

The evidence that counting grams of fat is the key to weight control is well documented. The mechanism for the process is logical and true, and the scientific literature supports it. The evidence that simply counting calories is the way to go is inconsistent, seldom corrected for the known influence of fat, often flawed, and there is no mechanism to explain how those excess calories contribute to weight (except for those from fat), that is consistent with human biochemistry.

It is very hard to overeat on pure carbohydrate foods because they are bulky and often contain a lot of water. A good rule of thumb is if you are in good health, have a normal metabolism, and exercise regularly, consuming one gram of fat for each kilogram (2.2 lbs) of body weight (or target body weight) will not add on the pounds Americans seem to be so attached to.

It is never a pleasant situation to cut out your favorite foods to lose weight; that is why so many diets fail. The best way to lose weight and keep it off is to remove as much fat from the diet as possible. Always select the low-fat alternatives; your taste buds will become accustomed sooner than you think. Choose several servings a day of fresh fruits, vegetables, breads and pastas (minus the high-fat spreads or sauces) with a complimentary amount of quality protein and as little fat as you can get away with. There will always be too many opportunities to consume fats; work at dodging them as you would anything that would jeopardize your working out.

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