

DIET

by

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Proper nutrition is essential to good health. Those who are well depend upon the food they eat to maintain their health, while those who are ill require good nutrition to recover from their illness. There are four categories of nutrition which are important to any diet: protein, carbohydrates, fat and micro-nutrients. Protein is important to our diet as a building block for muscles and many of the chemicals which regulate our metabolism, including enzymes and hormones. Carbohydrates are a good source of energy and include foods such as bread, rice, starch and sugar. Fats are important structural components for cell walls and other membranes, and can also be stored as an energy reserve for times when food is not readily available. Micro-nutrients include vitamins and minerals which are essential co-factors to most of our body's chemical processes, and their absence can lead to specific diseases such as rickets (vitamin D deficiency) or scurvy (vitamin C deficiency). Together, these four groups determine the nutritional value of the foods we eat, and how much benefit our diet offers us in maintaining or regaining our health.

Most people tend to choose the daily food they eat not for its nutritional value, but for calorie content and taste. Calorie content tells us how much energy is in our diet, and it is of great concern today because we equate it with our ability to lose weight and stay trim. The average American eats a diet of approximately twenty-five to thirty-five hundred calories each day. If the calories in the food we eat equals the amount of energy we burn during our daily activities, then our weight remains stable. If the calories we eat are less than the energy we burn that day, then we lose weight. Finally, if there are more calories in our diet than those we burn during our daily routine, then these excess calories are stored in our body as fat and we gain weight.

Interestingly, it is by the content of protein, carbohydrates and fat within a food that we can calculate the exact caloric content of the things we eat. Each gram of fat that we consume has nine calories of energy in it, while a gram of either carbohydrate or protein only have four calories each, with micro-nutrients considered to have no significant amount of calories in them at all. To see how this works in our daily lives, let us take as an example a single serving of Fig Newton cookies. According to the Nabisco food company, manufacturers of the popular obey-gooey-chewy Fig Newton, a single serving of this food weighs thirty-one grams, which is equivalent to two cookies. On the side of the package, Nabisco lists in the nutrition table that two of these cookies contain a total of 2.5 grams of fat, 1 gram of protein and 20 grams of carbohydrates. If we use the calorie equivalents previously mentioned for each of these nutrients, then we can calculate the total calorie content for two Fig Newtons as in the following table:

Type Of Nutrient	fat	protein	carbohydrate	TOTAL CALORIES
Grams Per Nutrient	2.5	1.0	20.0	-----
Calories Per Gram	9	4	4	-----
Calories Per Nutrient	22.5	4.0	80.0	106.5

Therefore, for every 31 grams of Fig Newtons which you eat you are consuming 106.5 calories. Curiously, on the package Nabisco lists the total calorie content of two Fig Newtons as 110 calories, which is 3.5 calories more than what was just calculated. I called Nabisco at their toll-free customer service number (1-800-622-4726) and asked them where these extra calories came from. They told me that the act of rounding up the total calorie content to the nearest whole ten is an industry wide practice which compensates for any fluctuations in the content of individual cookies in their packages. Since they have no way to guarantee that each cookie will have precisely the exact same weight or amount of ingredients as every other cookie, they round up to account for any likely variations in overall composition. While this is a reasonable practice of the food industry, not all of the things which food manufacturers do are as considerate. To better appreciate this, let us talk about peanut butter for a moment.

When I think of peanut butter, I think of fresh roasted peanuts which have been ground up to a smooth paste, sometimes with a dash of salt added to enhance the flavor. Not all peanut butters are alike, however, and some are more candy than butter. While products labeled as old-fashioned or natural peanut butter usually follow the above formula, most of the more popular brands today do not. The oil of the peanut is actually quite valuable when separated from the butter, and brands of this creamy product, including Jif, Skippy and Peter Pan, have this oil extracted in the manufacturing process. The peanut oil is then sold separately from the butter and a less expensive oil such as soy, cottonseed or rapeseed is then used in its place. In addition, to further boost its flavor, sugar is added to the product, as is about one third more salt than is used in the natural or old-fashioned products. Therefore, while one person's peanut butter is a fairly natural product, another's can be a highly processed food with many additives.

As can be seen from peanut butter, it is important to understand what is really in the foods we eat and not to assume that their labels tell the whole story. For example, there is a great debate in the dietary world today over what is being called fat-free food. The label fat-free is used on foods which have no chemical fat in their composition. In other words, when a manufacturer produces a food to be labeled as fat-free, upon chemical analysis of its nutrient content there can be only protein, carbohydrates and micro-nutrients, but no fat in that food. Many food producers are using this label on their packages and in their advertisements to sell their products, as consumers make the false assumption that fat-free also means non-fattening. Remember, when we eat food, if there are more calories in our diet than the amount of energy we use during the day, then the excess calories are stored as fat. Even when a food has no chemical fat in it, if that food has more protein or carbohydrate calories than we need, then these nutrients will be chemically converted to fat in our bodies.

To better see how this actually works, take as an example the fat-free version of Fig Newton cookies, also made by Nabisco. When people buy a fat-free cookie, they are purchasing something which they believe will help prevent them from eating excess calories and, therefore, help them either lose or keep from gaining weight. On the package Nabisco states that the fat-free version of the Fig Newton has 100 calories per serving, a modest savings of ten calories per two cookies over the regular Fig Newton. Yet, things are not what they appear to be, for once we correct for actual differences in serving size and industry rounding, we find that the actual difference is less than four calories. The first problem arises in that the serving size of two regular Fig Newtons weighs 31 grams, while the serving size of two fat-free Fig Newtons only weighs

29 grams. Thus, some of the stated savings in calories with the fat-free version is simply due to using a smaller amount of cookie in their calculations. The second problem has to do with the fact that the food industry rounds its final calorie calculations upward, as previously discussed. Using the nutrient values on the side of the fat-free package, this can be corrected by creating the following table for the fat-free cookies which is similar to the one we made above for the regular Fig Newton:

Type Of Nutrient	fat	protein	carbohydrate	TOTAL CALORIES
Grams Per Nutrient	0.0	1.0	23.0	-----
Calories Per Gram	9	4	4	-----
Calories Per Nutrient	0	4.0	92.0	96.0

Therefore, for every 29 grams of fat-free Fig Newtons which you eat you are consuming 96.0 calories. Wait, when we subtract these 96 fat-free calories from the 106.5 calories in the regular Fig Newton, we appear to get a savings of 10.5 calories which is actually one half calorie more than the ten calorie difference Nabisco wrote on the package's labels. The trick here comes back again to the problem of using different weights in the serving sizes, with the regular Fig Newton having 106.5 calculated calories for every 31 grams of cookie, while the fat-free version has 96.0 calculated calories for only 29 grams of cookie. If we even these serving sizes up to where they both weigh 31 grams then we find the following actual calorie savings:

Type Of Newton	Serving Size In Grams	Calories Per Serving Size	Calories In A 31 Gram Serving
Regular	31	106.5	106.5
Fat-Free	29	96.0	102.6

Therefore, once corrected for the differences in serving size and the industry practice of rounding, we find an actual savings of only 3.9 calories. As there are 453.6 grams in one single pound, there are a little over 4000 calories in every pound of fat in our body (453.6 grams times 9 calories per gram, or 4082.4 to be exact). Considering we must burn off thousands of calories from our body for every pound of fat we wish to lose, then reducing our diet by only 3.9 calories does not represent a significant caloric savings. However, though manufacturers do not legally misrepresent themselves with the fat-free label, the consumer must be smart enough to realize that fat-free does not mean non-fattening. In addition, as this label is often used on dessert foods such as cookies, cakes and ice-creams, it is important to know that fat-free foods may be a very fattening part of your diet and of little nutritional value.

In and of itself, fat has played a very important part in our evolutionary process. However, the conditions under which it was originally used as an energy reserve no longer exist, and today it often becomes a health hazard for us. Eons ago, when we lived in caves, people were driven to eat what they

could, when they could, often in fear of being eaten themselves. People, like plants, had to use daylight hours to maximize their ability to locate edible goods while avoiding predators. They not only had to find enough food to last the daylight hours, but also enough to see them through the evening hours, lest they spend the night awake in hunger. Unfortunately, as there were no supermarkets or convenience stores back then, there were times when food might not be available to people for several days or even a week or more. While plants derive their energy from the sun, animals must consume plants or other animals to survive. In order to create food reserves to see us through lean times, our bodies evolved over millions of years to store the excess calories we eat as fat. Thus, when food was plentiful we could eat more than we needed and keep the excess as fat. Then, when food was scarce, our bodies could convert this fat back to useful energy, thereby sustaining us until we could once again find more food. Today, however, food in the United States is overly plentiful, and though we seldom if ever have to go more than a matter of hours between meals, we still overeat and layer our bodies in fat. Unlike our cave dwelling counterparts whose lives were much more physically demanding, we do not easily convert this fat back to useful energy, but carry it around permanently as part of our bodies. The health problems resultant from this modern day dilemma are evident in the millions of cases of heart disease, diabetes, and strokes which parade before the medical profession each year.

Nutrition is the backbone of our well-being, with what we eat either limiting our bodies from, or empowering our bodies in maintaining our health. It is our individual responsibility to see that we eat the best food possible if we hope to safeguard our own well-being. Food manufacturers will not continue to make products which we will not buy, therefore, we are the ones who create the demand for the food they make. If we buy junk food that is low in nutritional content, then we are telling them to keep making this same type of food. If, however, we become intelligent shoppers and learn to eat food with proper nutritional value, then they will start to make food which is better for us. If we can learn to eat fresh vegetables and unprocessed foods instead of fatty, greasy meals, if we can consume fresh fruits instead of candy and cakes as snacks and desserts, and if we can replace sodas with fresh juices, then we can make the food industry respond to our health needs. Yet, this is not what is currently happening in society overall, as we tend to eat food for its taste rather than its nutritional content.

Taste is the amount of pleasure food provides our physical senses as we eat. It is the summation of the flavors, aromas and textures which our diet offers that determines how food tastes to us. Taste plays an important role in our diet as, with fat, millions of years of evolution have been required to develop it. Yet, like fat, the features of taste which were once invaluable to us, now make it an obstacle to our health. Millennia ago when edible goods were not as easy to obtain as they are today, our sense of taste helped guide our choice in eating things which were of maximal benefit to us. There were no candy bar trees back then, but there were numerous fruits which contained high concentrations of sugars. Our preference for sweets drove ancient people to seek out these fruits which were bountiful sources of carbohydrates and energy. Also, there were no hamburger stands ages ago, so people needed to hunt and kill other animals, valuable sources of both protein and fat. Fat carries much of the flavor in many of the foods we still eat today, and in pre-historic times our desire for this taste helped to reinforce our carnivorous appetites. In those times, taste was a valuable asset in determining if an edible object was desirable and of likely benefit to us. Today, however, with an excess of high fat and sugar overloaded foods in easy access, our pre-historic drive for taste now endangers our well-being.

With the millions of years it took to develop our tastes for food, and our method of storing energy as fat both working against us, it is easy to see why people today have a problem with their diets. I know of no easy way to resolve this problem other than to make others aware of the reasons for and consequences of it, in the hope that this will provide them with the motivation to reform their dietary habits. The life of every cell within you is affected by what you eat. Every time you take a bite you have either fulfilled or lost yet another opportunity to do something good for yourself. Most of the times when we are sick, our diet offers the best medicine for our recovery, as deficiencies in our diet often play a major role in the progression

of our illnesses.

I myself eat a predominantly vegetarian diet which also includes fish, eggs and dairy products. I made this choice because of a problem I had digesting meat when I was fairly young. At one point I had such difficulties that a physician recommended I try a vegetarian diet to assist in my recovery. I was so pleased with the results that I have adhered to this diet. While it is not right for everyone, I share this as an example of how our diets can either deplete or improve our health. Most people I know of today would benefit highly by taking this message to heart and learning to eat healthier foods.

I have not intended to list ways of eating better, but to discuss reasons why we should improve our diets. There are hundreds of books already published which can teach you how to eat properly, and it is my hope to give you the motivation to seek out their assistance. Thus, I would like to close this chapter with a few suggestions I call the seven signs of successful weight loss.

First, do it for you. Any significant change in your life requires motivation and perseverance to endure the ups and downs of life. Self improvement is one of the strongest and most durable motivations available to you. Weight loss gives you the opportunity to actively improve your health by reducing risks to your heart, lungs and digestive system commonly associated with excess weight. Do it for you.

Second, go slow. You did not put on weight overnight, and you should not expect to take it off overnight either. Quick weight loss programs, with or without drugs, often fail because you revert to old eating habits once you stop the program. Permanent weight loss depends upon making permanent changes to your dietary habits which you can live with, and these take time to evolve and perfect. Plan to lose only one to two pounds each week, keeping in mind that no single eating program is right for everyone. You must take the time to experiment and learn what type of diet will work best for you. You may benefit by focusing on one meal at a time, starting with improving breakfast, then concentrating on lunch and dinner in successive weeks or months.

Third, do not deprive yourself. If you try to change everything at once, your body and mind will rebel. This is known as all-or-nothing-equals-nothing. Instead of changing everything overnight, create step-by-step goals which focus on healthier alternatives to your current eating habits. Your goal should be to constantly evolve - what is good today could be even better tomorrow. Above all, once a week or once a month, reward your good efforts with a modest amount of food you especially enjoy, even if it is not the best food for you.

Fourth, think before you swallow. Not everything is what it seems. Fat-free foods, though having no chemical fat, do have excess carbohydrates and sugars which change to fat in your body after you eat them. In addition, salt promotes weight gain by forcing your body to retain water. Finally, avoid artificial additives (saccharin, NutraSweet, olestra) and preservatives in food. They have no productive place in a healthy diet. When trying to figure out all the things that are added to our food today, I like this simple rule of thumb: if a farmer 200 years ago could not pronounce it or grow it, then do not eat it.

Fifth, get moving. The time tested equation for weight loss combines decreased calorie intake (a low calorie, high nutrition diet) with increased calorie burning (exercise). You do not need a lot of expensive equipment to exercise, and most people can do an effective thirty minute daily workout in the privacy of their own home. The best exercise programs combine both aerobic and stretching routines. Start at a level appropriate to your abilities and work towards improving your endurance and stamina.

Sixth, record your results. To see your progress, it is beneficial to record your efforts and results. Use an exercise log to write out exactly what daily exercises you will be doing, then write one or two lines each day on how you felt before, during and after each session. This log will help you adjust your workout program, increasing its efficiency and effectiveness. In addition to an exercise log, create a diet log by keeping a small memo pad and pen with you at all times to write down what you eat and drink throughout the day. You need not make detailed notes and do not calorie count. Just make general outlines of what you have consumed. Be sure to write things down as you eat or drink them, because you will forget later. Use this log to see what you are really eating, and as a guide to making productive improvements in your diet. Also, make a weight log by purchasing a bathroom weight scale and posting a piece of paper near it. Record your weight twice daily, once in the morning and once in the evening. You might be surprised to realize that most people's weight fluctuates between two to five pounds each day. This log will help guide your overall progress with your exercise and diet programs.

Seventh, problem solve. You will encounter many challenges in your efforts to first lose weight and then to maintain your new dietary habits. Meet each challenge with the resolve that you will find a solution that allows you to evolve and keep moving forward. Common problems include snacking between meals and eating out. This first problem can be solved by snacking on low calorie fillers such as hot air popcorn without salt or butter. Though this has little flavor, it will curb your appetite and prevent you from eating junk food. The latter problem can be reduced by eating something healthy at home before going out to eat. This will lessen your appetite and keep you from eating large amounts of unhealthy food when you do eat out. See these and other obstacles as opportunities for you to problem solve and you can become responsible to eat right.

Bon appetit.