

NUTRITION IN A NUTSHELL
By Trish Schwartz

THE NUTRIENTS

THE FIVE FOOD GROUPS

1. Carbohydrates.....	1. Fruits
.....	2. Vegetables
.....	3. Grains
2. Protein	4. Protein/Meat
3. Fats	5. Dairy

Keep in mind that all foods contain a combination of several of the nutrients, but most foods are primarily either classified as a carbohydrate, protein or fat. For example, peanut butter is a classic combination of all three nutrients. Two tablespoons of peanut butter provides 7 grams of carbohydrate, 8 grams of protein and 16 grams of fat. On the other hand, a piece of whole grain bread, which is primarily a complex carbohydrate food, provides 17 grams of carbohydrate, 3 grams of protein and 1 gram of fat.

Carbohydrates are the body's primary source of energy for overall body function, especially the working muscles and the brain. There are two types of carbohydrates that need to be considered when striving to eat a healthy diet: **Simple:** sucrose (table sugar), brown sugar, molasses, honey, fructose (fruit sugar), corn syrup, etc.) and **Complex:** starches and fibers such as whole grains, vegetables and legumes. Their molecular structure is just as it says—simple or complex. A simple carbohydrate is composed of only 1 – 2 sugar molecules, which digests very quickly and complex carbohydrates are composed of many sugar molecules, which takes longer to digest.

Simple carbohydrates are the carbohydrate that gives carbohydrates a bad reputation. Because they digest so quickly, they can cause quick and sometimes drastic drops in blood sugar levels. This can instigate a vicious cycle of mood swings, frequent eating and fat storage. Without going into the physiology of simple carbohydrates, just realize that they are as much of a culprit to obesity as fatty foods, however people need to learn how to incorporate them into their diet in a reasonable and strategic way as to not cause weight gain, but not deprive themselves of the pleasure of eating these types of foods on occasion.

Complex carbohydrates are of great importance to human health and need to be included into the diet on a regular basis. Many vitamins, minerals and very important fiber are part of carbohydrate foods and necessary for good health. People who eliminate complex carbohydrates from their diet, for the sake of losing weight, are depriving their bodies of important nutrition. Keep in mind that white flour products, such as white bread and bleached pastas have been stripped of much of the important whole grains, therefore they are not good choices. But, it does not mean you cannot eat them and it also does not mean that they, in and of themselves, are the reason for weight gain. Once again, they need to be included in the diet in a reasonable and strategic way.

Proteins are not a primary source of energy, however they do provide the body with energy. More importantly, protein foods are responsible for building body tissues, such as muscle, bone, hair and finger nails, etc., as well as producing important antibodies, hormones and enzymes that are all very important for good health. Protein sources are meat, eggs, legumes, and milk products. Over consumption of protein foods can be just as detrimental to good health as over consumption of simple carbohydrates.

Fats are a very concentrated form of food energy because, per volume of food, they have more than double the caloric content of a carbohydrate or protein food. That is why they are considered to be so “fattening”, but they are vital for good health because they protect vital organs, insulate the body from extreme temperatures, provide linoleic acid, are necessary for the absorption and transport of vitamins A, D, E and K, and they are a vital component of the cell membranes.

Fat sources come in two forms: **Saturated:** meats, eggs, butter, lard, and vegetable fats, such as palm oil, coconut oil and margarine and **Unsaturated:** fish oils and plant oils from various vegetable oils such as canola, corn, peanut, safflower and soybean. The saturated fats are the biggest contributors to poor health because they can increase cholesterol production in the body, but we need to remember that cholesterol is an important component of our cell membranes and is only detrimental to health if it is in excess. The unsaturated fats tend to decrease cholesterol production, therefore they are the desirable choice.

Fats are a very necessary nutrient, but somewhere along the line our society has completely defaced the value of fat and made it out to be responsible for obesity. Fat is just as important as carbohydrates and proteins. **Over consumption of any type of fat contributes to obesity and compromised health just as much as over consumption of carbohydrates or protein.**

Vitamins and Minerals are other important nutrients (the micronutrients) that are necessary for good health. All of these are part of whole foods--carbohydrates, proteins and fats-- and can be obtained by eating real food. However, since much of our foods has been depleted of these vital nutrients, they can be obtained by supplementation.

These nutrients are necessary for optimal physiological functions of our bodies, such as our metabolism, respiration and digestion. Without them, we will lack vitality and energy as well as a strong immune system. Think of vitamins and minerals as the “spark plugs” of all of our systems. They are the co-enzymes that help reactions to occur in the breakdown and utilization of carbohydrates, proteins and fats. Supplementation guides can be obtained from dietitians, nutritionists and health and nutrition books.

Fiber and Water are both considered nonnutritive because they do not provide caloric energy or essential vitamins and minerals, but they are essential for life, as well as good health.

Fiber is necessary for proper digestion and elimination. Fiber is necessary to clear the digestive tract in order for vital nutrients to be able to be absorbed into the bloodstream and distributed where necessary. In addition, fiber helps to stabilize blood sugar levels and aids in the decrease of cholesterol build up. The amount of fiber necessary for good health is about 20 – 35 grams per day. That can easily be obtained and is presented in the following one-day menu:

Breakfast:	1 Cup whole grain cereal	5.0 grams
	1 Banana	3.0
	1 Cup skim milk	0
Lunch:	2 Slices whole wheat bread	5.0
	4 – 6 oz. Tuna or turkey	0
	1 Apple	5.0
Dinner:	2 Cups Chili (includes ½ C beans)	7.0
	1 Large baked potato w/ skin	5.0
	1 Cup Broccoli	5.0
TOTAL		35 GRAMS

Water is necessary for all physiological processes in the body. Our bodies are composed of 60 – 70% water and, if we fall below that, everything functions below par.

Proper hydration with water will accomplish the following:

1. Increase energy
2. Increase metabolic rate
3. Decrease body fat
4. Increase digestive efficiency
5. Increase temperature regulation
6. Decrease toxicity
7. Increase muscle tone
8. Increase skin tone
9. Decrease post-exercise muscle aches.

The average person should consume between 6 – 10 (8oz.) glasses of water per day for good health. The amount you require naturally depends on your size and activity level--larger and/or active people should consume more, but all people should strive for at least six glasses per day. It has been misunderstood that, to achieve this amount of water, one should consume plain water only. That is not true. Ample water can be obtained from any non-caffeine and nonalcoholic beverages, such as juice, milk, teas and sports drinks, however plain water should be included in your consumption.

Balanced Eating is the key to good health. Including all of the nutrients, in appropriate amounts, into the diet will ensure that you are getting all of what you need to be successful in obtaining good health and an appropriate body weight and body

composition. The right choice of balance will vary for every individual because we are all unique and possess varying body chemistry.

The following guide provides an ample quantity of each nutrient while allowing differences in food preferences and natural body chemistry. These percentages are based on total calories consumed in a day. Keep in mind that total caloric intake varies for every individual and can range anywhere from 1500 calories a day to 4000 calories a day depending on the size and activity level of the person.

		65%/15%/20% (higher carb/lower protein)
		60%/20%/20%
Carbohydrates:	40% - 65%	55%/20%/25%
Proteins:	15% - 30%	50%/25%/25%
Fats:	20% - 30%	45%/30%/25%
		40%/30%/30% (lower carb/higher protein)

If you consume 2000 calories a day and choose a median balanced ratio of 50%/25%/25%, then you would be consuming 1000 calories of carbohydrate, 500 calories of protein and 500 calories of fat. This is considered an acceptable range for good, balanced eating. Any of the above combinations will provide a reasonably balanced, healthy diet.

There is much controversy about going lower than 40% carbohydrate in the diet and higher than 30% protein or fat. The decision that each individual makes will depend on where their priorities are...losing weight or achieving good health. I am an advocate of good health before good physique. If you want to make sure your body gets all of what it needs, don't go below 40% carbohydrate or over 30% protein or fat.

The bottom line that everyone needs to understand is that **THE TOTAL CALORIC INTAKE** of the diet is the main culprit for weight gain or weight loss. It is the energy equation: Calories in versus calories out. If you eat more food than you burn off, you will gain weight. Yes, there are specific strategies that can be incorporated into your eating that can help with achieving and maintaining an appropriate body weight, but the primary factor is total calories eaten.

Finding your balance requires more education and investigation. Guidance from a dietician, nutritionist or certified personal trainer who has a nutrition certificate is a wise approach to acquiring the knowledge you need to be successful in achieving good health and a healthy body weight. There are many health and fitness books out on the market that can provide this information, as well.

RECOMMENDATIONS FROM THE NEW FOOD GUIDELINES

FRUITS: Eat a variety of fruits—whether fresh, frozen, canned, or dried—rather than fruit juice. For a 2,000 calorie diet, you will need 2 cups of fruit each day, for example 1 banana, 1 large orange, and ¼ cup of dried apricots or peaches.

VEGETABLES: Vary your veggies, but eat more dark green vegetables, such as broccoli, kale, and other dark leafy greens; orange veggies, such as carrots, sweet potatoes, pumpkin, and winter squash.

GRAINS: Make half of your grains whole grains. Eat at least 3 oz. of whole-grain cereals, breads, crackers, rice, or pasta every day. One oz. is about 1 slice of bread, 1 cup of cereal, or ½ cup of cooked rice or pasta. Make sure the grains, such as wheat, rice, oats, and corn are referred to as “whole” in the list of ingredients.

PROTEIN: Choose lean meats, poultry and fish. Bake, broil, or grill them. Vary your protein choices if you are not eating animal proteins—more legumes, such as beans, such as pinto beans, kidney beans, black beans, garbanzo beans, split peas, and lentils. Also include nuts and seeds.

DAIRY: Get your calcium-rich foods. Get 3 cups of low-fat or fat-free milk—or equivalent amount of low-fat yogurt and/or low-fat cheese (1 ½ oz. of cheese = 1 cup milk)—everyday. If you can't consume milk, choose lactose-free milk products and/or calcium-fortified foods and beverages.