

STEPS TO WELLNESS – LESSON 4

You Are What You Eat

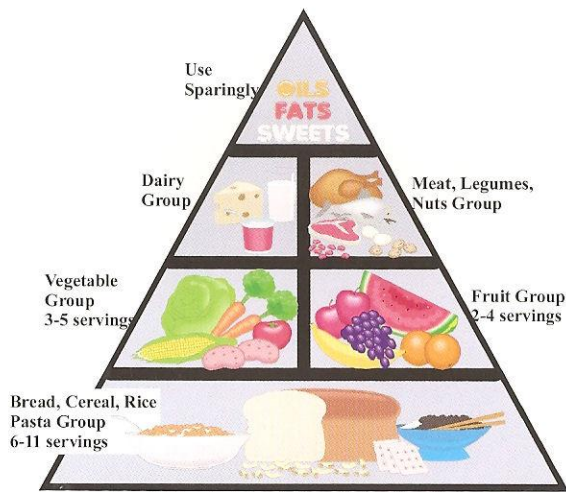
AMERICA TODAY

For most of us, food and eating is an important part of our lives. Eating sufficient food is not usually a problem in affluent or developed countries such as the United States. In fact eating too much has become the problem, with a high incidence of obesity in the population. Even so, it is still possible for our diets to be nutritionally deficient of vitamin and mineral-rich foods essential for good health. This is often caused by the popular use of refined convenience foods at home and eating out frequently at fast-food places. Heart disease, cancer, diabetes, stroke, and many other modern-day health problems are linked to diet and other lifestyle patterns.

TAKING CHARGE OF YOUR HEALTH

Good health can be readily gained by eating a wide variety of quality foods, particularly fruits, vegetables, legumes or beans, and whole-grain foods. Dr. Mervyn

THE FOOD GUIDE PYRAMID A Guide to Daily Food Choices



pyramid is divided into six groups, and reflects visually food servings for the best diet and optimal health.

CARBOHYDRATES

Notice in the Food Pyramid Guide that the base of the pyramid, the “eat most” group are made up of the complex-carbohydrate foods represented by grains, fruits and vegetables. A diet that contains a variety of whole-grain cereals and breads, salad vegetables, cooked vegetables, and fresh fruits will provide an abundance of the essential nutrients needed for good health. Carbohydrates are our energy foods. They give our bodies the needed blood sugar (or fuel) to perform. So when we eat carbohydrates our bodies break them down into blood sugar which is a usable source of energy for the cells.

There are two types of carbohydrates; one is simple carbohydrates (commonly called “sugars”) which require very little digestion before they are used by the body. They are broken down very quickly and give quick energy, but it is soon gone. This is the case in a “sugar high” that comes from eating a candy bar (about 3-6 tsp. of added sugar) or drinking a can of soda (about 10 tsp. of added sugar). Sugar may also deplete the body of vitamin B1, promote dental caries, depress the immune system, elevate blood fat (triglycerides), promote hypoglycemia and possibly adult-onset diabetes, irritate the stomach and may lead to constipation. Unfortunately the amount of sugar used by Americans has been increasing. In

1822, the average sugar consumption for a person was about 3 teaspoons a day, in 1991 that figure was up to 43 teaspoons a day.



The second type of carbohydrate is complex carbohydrates (“starches”). They give a sustained energy release over longer periods of time. Examples of these would be whole grains (whole-wheat bread, brown rice, oatmeal, whole-grain pasta), legumes or beans, vegetables and fruits. Carbohydrates should make up the majority of our diet.

GRAIN, CEREAL, RICE, PASTA GROUP

Whole-grain bread, whole-grain cereals, whole-wheat pasta and brown rice are low cost complex-carbohydrate foods that provide the body with an excellent source of energy, as well as B vitamins, iron, phosphorus, and protein.

Breakfasts are an excellent opportunity to eat a variety of grains and cereals. One study conducted by Drs. Belloc and Breslow of UCLA School of Public Health revealed that those who skipped breakfast had a higher overall death rate when compared to those who regularly ate breakfast.¹

A recent study of the breakfast habits of the elderly overweight and normal-weight individuals revealed some interesting results applicable to people of any age.

stored as adipose (fatty) tissue and excess weight. Choosing foods that are low in total fats will provide all our dietary essentials, while helping us achieve a balance in the equation, Energy in = Energy out.

FIBER

Dietary Fiber is the term given to the part of plant food that is not absorbed as nutrients during the normal human digestive process. In the mid-70s the work of researcher Dr. Denis Burkitt showed that people whose diet was rich in fiber had



less incidence of heart disease and disorders of the digestive tract and bowel. In some areas, however this was not a welcome message because food-production trends and processing practices were removing much of the natural fiber in food like white rice and white bread.

Fiber is found only in foods of plant origin, which are generally high in complex carbohydrates and low in fat: vegetables, whole grains, fruits and beans. Some of the advantages of fiber are:

1. Food passes more quickly from mouth to bowel.
2. Feces are softer and larger.
3. The gastro-intestinal tract is healthier.
4. The risk of such diseases as bowel cancer, diverticulitis, hemorrhoids and colitis is reduced.
5. Diets adequate in fiber-rich foods have a role in reducing blood cholesterol levels.

Healthful diets help children grow, develop, and do well in school. They also enable people of every age to work productively and feel their best. Wise food choices help reduce the risk of chronic diseases such as heart disease, certain cancers, diabetes, stroke, and osteoporosis. If we choose a diet that follows the emphasis of the Food Guide Pyramid, eating a varied diet of grain products, vegetables, and fruits, we will have excellent sources of vitamins, minerals, complex carbohydrates, fiber and other substances that are important for good health.

In the Bible, God asks a question concerning dietary habits and then gives an appropriate suggestion: "Wherefore do ye spend money for that which is not bread? And your labour for that which satisfieth not? Hearken diligently unto me, and eat ye that which is good..." Isaiah 55:2

Changing old habits are difficult at first, but the benefits gained from eating that food "which is good" is well worth the effort.

References

- 1 Belloc, N., Breslow, L. 1972. Relationship of Physical Health Status and Health Practices. Preventive Medicine (1)411-415.
- 2 Ortega, R.M., Redondo, M.R., et al., Feb. 1996, Associations Between Obesity, Breakfast-time Food Habits and Intake of Energy and Nutrients in a Group of Elderly Madrid Residents, Journal American College of Nutrition, 15(1):65-72.
- 3 Nutrition and Your Health: Dietary Guidelines for Americans, U.S. Dept. of Agriculture, U.S. Dept. of Health and Human Services, 4th ed., 1995, p.23; Nutrition Action Healthletter, April 1994, p.9.
- 4 W. Craig, Review, 1/11/96, p.15
- 5 British Medical Journal 1996;313:775-778.
- 6 Nutrition and Your Health: Dietary Guidelines for Americans, p.27.

REVIEW QUESTIONS

T F (True or False)

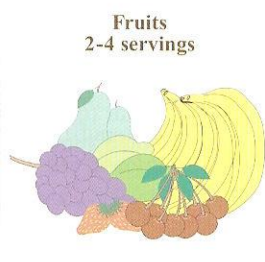
- ___ ___ 1. Nutritional deficiency is not a problem in the United States where there is plenty to eat.
- ___ ___ 2. It does not matter what foods we eat, as long as we do not eat more than we need.
- ___ ___ 3. Carbohydrates are used by the body as energy.

Multiple Choice Questions

Indicate your answer by checking the letter you think is most correct

4. Each day we should all eat a wide variety of fruits, vegetables, whole grains and legumes because they:
- ___ A. are generally high in complex carbohydrates and low in fat.
- ___ B. provide all the vitamins and minerals we need.
- ___ C. are low in fiber.
- ___ D. all of the above.
5. Whole grain foods are better than refined foods because they:
- ___ A. contain the nutrients that are not in refined foods.
- ___ B. they have more fiber than refined grains.
- ___ C. enriched products only contain 4 or 5 added nutrients compared to 19 in whole-grain flour.
- ___ D. all of the above.
6. Dietary fats should:
- ___ A. make up the majority of our calories.
- ___ B. be avoided because they are unnecessary to the body.
- ___ C. consist of about 15-20% of our total calories.
- ___ D. none of the above.

Participants were divided into two groups, overweight or obese compared to normal-weight subjects. The study found that the normal-weight subjects more frequently indicated a preference for fruit, juices, and bread as breakfast food, and



less preference for fritters, than did the overweight subjects. Normal-weight subjects not only consumed more varied breakfasts, spent a longer time eating their breakfasts, and consumed greater quantities of food than did overweight

subjects. Breakfast for the normal-weight subjects provided a greater contributions of fiber, vitamin E, and iron to meet recommended intakes than did those of overweight individuals.² Obviously, breakfast does not contribute to obesity, but rather protects against it, besides supplying us with the nutrients needed for a good day of work or school.

When wheat or rice are refined to make white flour or polished rice, about 19 different nutrients are removed or destroyed. Even when you use “enriched” flour, you are getting only about four or five of these nutrients replaced in the flour.

GRAIN REFINING

Grain (100g)	Protein (g)	Fiber (g)	Iron (mg)	Vit. B1 (mg)	Vit. B3 (mg)
White rice (cooked)	2	0.7	0.2	0.02	0.04
Brown rice (cooked)	2.5	1.3	0.5	0.09	1.4
White flour	9.8	3.4	1.5	0.1	0.7
Whole wheat flour	13.2	9.6	4	-.46	5.6

Dr. Walter J. Veith Ph.D. Diet & Health, Southern Publishing Association

Compare the amount of vitamin B1, B3, iron, fiber, and protein in whole-grain products compared to those that are refined.

Obtaining the recommended daily servings of the grain-cereal group is not really difficult. The six servings per day as a minimum applies to those eating the minimum of calories and the eleven servings applies to those on a larger calorie intake. For breakfast a bowl of oatmeal and two slices of whole wheat bread or toast would equal 4 servings of grains. A sandwich for lunch would equal 2 more servings, and if you have a cup of rice or pasta at dinner, that is 2 more servings. Notice how quickly this adds up to 8 servings.

VEGETABLE AND FRUIT GROUP

Next up in the pyramid group are vegetables and fruits. Fruits and vegetables taste great and are quick to prepare. In fact, some call them the original fast food. Most fruits and vegetables are low in calories and fat. They are excellent sources of vitamin C, vitamin B6, carotenoids including those which form vitamin A, and folate. The antioxidant nutrients found in plant foods such as vitamin C, carotenoids, vitamin E, and some minerals, are of great interest to researchers because of their potentially beneficial role in reducing the risk for certain cancers by half, as well as certain other chronic diseases. Antioxidants have the ability to protect cells from damage that may lead to the development of tumor cells. Recent studies show a daily consumption of fresh fruit was associated with a 24% reduction in death from ischemic heart disease, a 32% reduction in death from cerebrovascular disease, and a 21% overall reduction in all causes of death. Eating a raw salad daily had a significant association with reduction of death from ischemic heart disease.

Obtaining the 3 to 5 servings of vegetables a day and 2 to 4 of fruits, or a minimum of five from both groups is not difficult with the varieties so readily available to Americans. What counts as a serving? One cup of raw leafy vegetables, one-half cup of other vegetables, cooked or chopped raw, or three-fourths cup of vegetable juice. For fruits, a medium apple, banana, or orange, half cup chopped, cooked, or canned fruit, and three-fourths cup of fruit juice.

PROTEIN FOODS

Protein provides the “building blocks” – in the form of amino acids – for the body and is part of every cell in our bones, tissue, and blood. It is therefore essential for growth, maintenance, and repair. Though there are 20 known amino acids found in differing quantities in the foods we eat, only 9 must be present in adequate quantities in the foods we eat each day, because the body can manufacture the others. The best way to ensure adequate protein intake is to eat a variety of quality foods each day.

FATS

There are no recommended amounts of fat to consume in the Food Pyramid model, in fact, it comes with a warning, “eat sparingly.” Fats are a source of energy but not as efficient as carbohydrate. Only ten percent of fat can be converted to blood sugar and used for energy in times of need. Fat is stored in layers of cells to protect vital organs and provide insulation from heat and cold. Fats are also involved in some of the body’s metabolic processes. So fat is an essential nutrient. However, fat is energy-rich, containing more than twice as many calories per gram as carbohydrates and protein. Our government now recommends choosing a diet that provides no more than 30% of total calories from fat. Other nutritionists recommend 15-20%. If the fat intake is greater than required for the body’s needs, it is