Nutrition and Healthy Eating

NUTRITION is the study of nutrients in food and how they function in the body. There are 6 nutrients: carbohydrates, proteins, fat, vitamins, minerals and water.

CARBOHYDRATE

Carbohydrates are chains of sugar molecules linked together to make starch, fiber or sugar. Carbohydrates are the body's preferred source of energy. The primary carbohydrate is glucose, a 6-carbon chain of sugar. Every cell needs glucose to function. Starch is a big sugar molecule, also called a polysaccharide. Starch is found in all grains (wheat, oats, rice, barley etc.), potatoes, bread, cereals and corn. Starch is digested down to glucose for use by the body. Fiber cannot be totally digested in humans, but does nevertheless provide important functions for the body. It can help lower LDL cholesterol, block certain forms of cancer, and improve digestion and elimination of food. The average American consumes about 12 grams of fiber per day, but it is recommended that we need 25-40 grams per day. High fiber foods include oats, whole wheat, legumes, brown rice, potatoes (with skin), corn, cereals, fruits and vegetables. Remember, water is needed when eating fiber to help push it through the intestines. Without ample water, the fiber will back up and cause constipation.

PROTEIN

Protein is used for tissue growth, maintenance and repair. Amino acids are the building blocks for protein. There are 20 amino acids, 9 essential acids (body cannot produce and must be derived from foods we eat) and 11 nonessential amino acids (body can produce in the liver). Protein is found in 4 of the food groups: meat, dairy, bread, vegetables. It is not found in fruits. The American diet is over-filled with protein.

FATS

Fats (triglycerides) play an important role: cushioning internal organs, provided insulation, transporting fat soluble vitamins (A, D, E, K), and assisting in the permeability of cell membrane for nutrients and wastes. There are essential fatty acids (Omega 3, Omega 6) just like there are essential amino acids. The Omega 3 fats are found in fish (salmon, tuna, trout), canola oil, flaxseed, soybean oil, nuts and seeds. The Omega 6 fats are found in leafy vegetables, soybean oil, nuts and seeds. Fats can be further classified as saturated (coconut, palm oils, animal fat, butter), polyunsaturated (safflower, soybean, sesame, corn oils), monounsaturated (olive and canola oils, avocado) and partially hydrogenated (trans fats). Saturated and partially hydrogenated fats have been associated with clogging of arteries and heart disease. Polyunsaturated fats slightly lower blood cholesterol levels but also lower good cholesterol, HDL (high density lipoproteins). Monounsaturated fats have the ability to lower blood cholesterol levels while maintaining HDL protection levels.

WHAT IS TRANS FAT?

As of January 1, 2006, all labels must list the amount of trans fat in the product. Basically, trans fat is made when manufacturers add hydrogen to vegetable oil--a process called hydrogenation. Hydrogenation increases the shelf life and flavor stability of foods containing these fats.

Trans fat can be found in vegetable shortenings, some margarines, crackers, cookies, snack foods, and other foods made with or fried in partially hydrogenated oils. Unlike other fats, the majority of trans fat is formed when food manufacturers turn liquid oils into solid fats like shortening and hard margarine. A small amount of trans fat is found naturally, primarily in dairy products, some meat, and other animal-based foods.

Trans fat, like saturated fat and dietary cholesterol, raises the LDL cholesterol that increases your risk for CHD. Americans consume on average 4 to 5 times as much saturated fat as trans fat in their diets.

Although saturated fat is the main dietary culprit that raises LDL, trans fat and dietary cholesterol also contribute significantly.

The American Heart Association recommends that we keep our fat intake to no more than 30% of our total calories, keeping saturated and partially hydrogenated fat (trans fats) to 10% or less.

VITAMINS AND MINERALS

Vitamins and minerals do not provide calories (energy), but are vital to good health and can generally be acquired by eating a well-balanced diet. Seek a doctor's advice before assuming you need supplements.

WATER

Water is the transporting vehicle for all the nutrients and the medium in which all body processes occur. It acts as a lubricant, a cushion for joints and the spinal cord, and a regulator for body temperature. Maintaining proper hydration is essential. It is estimated that the average person needs approximately 8 to 12 cups of fluid per day. Checking for light yellow colored urine is helpful in determining adequate hydration.

MY PYRAMID

In 2005, the USDA released the MyPyramid food guidance system. The system provides options that can help Americans make healthy food choices and to be active every day. For a 2000-calorie diet MyPyramid recommends a diet that promotes the following guidelines regarding the food groups:

Grains (Make half your grains whole)	6 oz. every day
Vegetables (Vary the type)	2½ cups every day
Fruits (focus on whole fruit)	2 cups every day
Milk (get your calcium-rich foods)	3 cups every day
Meat and beans (Go lean with protein)	5½ oz. every day

Find your balance between food and physical activity. Stay within your daily calorie needs and get at least 30 minutes of activity most days of the week. For those who need to lose weight, increase to 60-90 minutes of exercise most days of the week.

Know the limits on fats, sugars and salt (sodium). Make most of fat sources from fish, nuts and vegetable oils. Limit solid fats whenever possible. Keep saturated fats, *trans* fats and sodium intake low. Choose foods and beverages that are low in added sugars.