Carbohydrates

Carbohydrates, the main nutrient in grain products and provide much of the fuel that keeps the body going, in much the same way that gasoline provides fuel to keep a car going. Carbohydrates can be classified into categories.

CARBOHYDRATES are the body's most preferred source of energy. They make up, by far, the largest volume (60%) of our daily food. They are taken in the form of all foods made up of grain flour, cereals, pasta, potatoes and other vegetables, and also in the form of sugars contained in fruits, syrups, honey and candy, as well as in the pure crystalline form of our familiar table "sugar".

Carbohydrate is the element in our food which:

1. supplies the energy for the body's automatic activity and for the performance of our daily tasks. The more physical work we perform daily, the more carbohydrates we must proportionately consume.
2. plays a vital part in the digestion, assimilation (metabolism) and oxidation of protein and fat. If we take in more carbohydrate of any kind than is needed for immediate use the unused portion is stored in the liver or converted into fat and deposited in the tissues for future use.

Most carbohydrates come from foods of plant origin. The major simple carbohydrates or sugars are glucose, maltose, fructose, and sucrose which come from plants. Lactose is found in milk.

**FOOD SOURCES OF CARBOHYDRATE**  
We generally think of grains (Bread & Cereal group) as the only source of carbohydrates. In reality carbohydrates come from many other sources that also give us other essential nutrients. Carbohydrates come mainly from plant sources, although milk and many milk products contain some carbohydrates in the form of lactose. Some of the most important sources of carbohydrates are shown on FOOD FOR THOUGHT.

**SIMPLE CARBOHYDRATES**  
Simple carbohydrates are quick energy sources, but they do not usually supply any other nutrients or fiber.

SUGARS - Glucose is the major kind of simple sugar. Glucose is the basic source of energy for all living things. Glucose supplies the body with quick energy. It occurs naturally in some fruits and vegetables and is also produced in the body by breaking down other foods into glucose.

*Mini-glossary Sweeteners*

*Sucrose: commonly known as table sugar, beet sugar, or cane sugar. Sucrose occurs in many fruits and some vegetables.*

*Fructose: known as fruit sugar. Most plants contain fructose, especially fruits and saps.*

*Glucose: sometimes known as blood sugar, sometimes as grape sugar. Nearly all plant foods contain glucose.*

*Maltose: known as malt sugar. Found in grains.*

*Lactose: commonly known as milk sugar. It is the principal carbohydrate found in milk.*

**COMPLEX CARBOHYDRATES**  
Complex carbohydrates often supply energy and other nutrients and fiber that the body needs. They are a better choice.

STARCH - in the body breaks down into simple sugars. The body has to break down all sugar/starch into glucose to use it. Starch supplies the body with long, sustained energy.

All starchy foods are plant foods. Seeds are the richest source; 70 percent of their weight is starch. Many human societies have a staple grain from which their people derive their food energy. In Canada, the United States, and Europe the staple grain is wheat. Rice is the staple grain of the Orient. Corn is the staple grain of much of South America and the southern United States. The staple grains of other peoples include millet, rye, barley, and oats. In each society bread, meal, or flour is made from the grain and is then used for many purposes. These staple foods are the major source of food energy for people of the world. They support human activity and energy.

The second important source of starch is the bean and pea family. These include dry beans found at your local supermarket such as lima beans, pinto beans, kidney beans, black-eyed peas, chickpeas (garbanzo beans), and soybeans. These vegetables are about 40 percent starch by weight and also contain a substantial amount of protein.

The third major source of starch is the tubers, such as the potato, yam, and cassava. These serve as the primary starch sources in many non-Western societies.

DIETARY FIBER - which is found in plant cells. Because it is tough and stringy, it does not break down completely in the body. Fiber is essential for regulating the body. It is the non-digestible part of plants.

**SOME OF THE IMPORTANT SOURCES OF CARBOHYDRATES ARE:**

SIMPLE CARBOHYDRATE:

Sugar - fruit, fruit juice, table sugar, honey, soft drinks, and other sweets

COMPLEX CARBOHYDRATE:

Starch - bread, cereal, potatoes, pasta, rice, and legumes (dried peas and beans)

Fiber - bran, whole-grain foods, raw vegetables and fruit (especially the seeds and skins), legumes, nuts, seeds and popcorn