



Commentary

Carbohydrate: An energy source

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DESCRIPTION

Carbohydrates provide the majority of the energy in the human diet. Direct oxidation in various tissues, glycogen production (in the liver and muscles), and hepatic de novo lipo genesis are the metabolic disposal mechanisms for ingested carbs. Dietary carbs have the primary effect of reducing fat oxidation while increasing glucose oxidation. Dietary carbohydrates have a role in energy balance regulation because food intake is influenced in part by the individual's carbohydrate requirements. Because various organs, such as the brain, require glucose, a low-carbohydrate, high-fat diet causes a spontaneous rise in food intake. As a result, the current nutritional advice of increasing carbohydrate energy while decreasing fat energy in the daily diet has solid scientific support in terms of energy balance regulation. Carbohydrates are divided into three categories: Sugar is also known as simple carbs since it is the most basic kind of carbohydrates. They can be found in a variety of meals, including confectionery, desserts, processed foods, and normal soda. They also include sugars found in fruits, vegetables, and milk that are naturally occurring. Starches are a type of complex carbohydrate made up of many simple sugars linked together. To use carbohydrates for energy, the body must first break them down into sugars. Bread, cereal, and pasta are examples of carbohydrates. Certain vegetables, such as potatoes, peas, and maize, are also included. Fiber is a complex carbohydrate as well. Because most fibres cannot be broken down by the body, eating meals high in fibre can help you feel full and reduce your risk of overeating. Fiber-rich diets have additional health benefits. They may aid in the prevention of stomach and intestinal issues

such as constipation. They may also aid in the reduction of cholesterol and blood sugar levels. Fiber can be found in a variety of plant-based foods, such as fruits, vegetables, nuts, seeds, beans, and whole grains.

Functions

Carbohydrates supply energy to your body, which is one of their key purposes. Before entering the bloodstream, the majority of the carbohydrates in your food are digested and broken down into glucose. Through a series of complex processes known as cellular respiration, glucose in the blood is taken up by your body's cells and used to make a fuel molecule called adenosine triphosphate (ATP). ATP can then be used by cells to power a range of metabolic processes. Most cells in the body may generate ATP from a variety of sources, including carbs and lipids in the diet. However, if you eat a diet that includes a variety of these nutrients, the majority of your body's cells will opt to use carbohydrates as their primary energy source. Excess glucose can be saved for later use if our bodies have enough glucose to meet their immediate demands. Glycogen is a stored form of glucose that is typically present in the liver and muscle. Glycogen is found in the liver in the amount of 100 grams. These glucose molecules can be released into the bloodstream to supply energy throughout the body while also assisting in the maintenance of normal blood sugar levels in between meals. Unlike liver glycogen, muscle glycogen can only be utilised by muscle cells. It's essential for long bouts of high-intensity activity. Muscle may be broken down into amino acids and transformed into glucose or other molecules to create energy.