SPORTS NUTRITION

Peak performance requires commitment to training and a number of other aspects . Our **diet** - what we eat and drink - is one of the areas which can influence sports performance. Sports nutrition is the what, when and how much of food and fluids we should consume.

Important components of nutrition are as follows:

CARBOHYDRATES, FATS, PROTEIN & AMINO ACIDS, FLUIDS

Before reading, study the following vocabulary:

Carbon /kɑ:bən/ a simple chemical substance, which exists in its pure form as diamond or graphite, and is an important part of other substances such as coal and oil, as well as being contained in all plants and animals
Hydrogen /haɪ.drɪ.dʒən/ the lightest gas, with no colour, taste or smell, that combines with oxygen to form water
Oxygen /ɒk.sɪ.dʒən/ a colourless gas that forms a large part of the air on Earth and which is needed by people, animals and plants to live
Range /reɪndʒ/ a set of similar things
Bean /bi:n/a seed, or the pod containing seeds, of various climbing plants, eaten as a vegetable
Corn /kɔ:n/ (the seeds of) plants that can be used to produce flour
Fibre /faɪ.bər/ any of the thread-like parts which form plant
Starch /stɑ:t /a white substance which exists in large amounts in potatoes and particular grains such as rice
Grape /greɪp/ a small round purple or pale green fruit that you can eat or make into wine
Veal /vi:l/meat from a very young cow
Lamb /læm/ a young sheep, or the flesh of a young sheep eaten as meat
Lard /la:d/a white substance made from pig fat and used in cooking
Poultry /pəʊl.tri/ birds, such as chickens, that are bred for their eggs and meat
Dairy /deə.ri/ used to refer to cows that are used for producing milk, rather than meat, or to foods which are made from milk, such as cream, butter and cheese
Kernel /kɜ:.nəl/ the part of a nut that is inside the shell and can be eaten the whole seed of the maize plant
Seed /si:d/a small round or oval object produced by a plant and from which, when it is planted, a new plant can grow
Canola Canola refers to a cultivar of Rapeseed /řepka/

Carbohydrates:

Carbohydrates: the basic building block of a carbohydrate is a **sugar molecule**, a simple union of **carbon**, **hydrogen**, and **oxygen**. Carbohydrates come from a wide range of foods – bread, beans, milk, potatoes, cookies, spaghetti, corn...they also come in a variety of forms- the most common are: sugars, fibres, and starches. Carbohydrates were once grouped into two main categories: simple carbohydrates included sugars such as fruit sugars (fructose), corn or grape sugar (dextrose or glucose) and table sugar (sucrose). Simple sugars were considered bad and complex carbohydrates good. The picture is much more complicated than that. The digestive system handles all carbohydrates in much the same way – it breaks them down. Fibre is and exception, it can´t be broken down and passes through the body undigested.

Fats:

Saturated fats raise blood cholesterol. Unsaturated fats don't.

The source of saturated fats are:

Foods from animals — These include beef, beef fat, veal, lamb, pork, lard, poultry fat, butter, cream, milk, cheeses and other dairy products made from whole milk.

Foods from plants — These include coconut oil, palm oil and palm kernel oil (often called tropical oils), and cocoa butter.

Unsaturated fats. They're found primarily in oils from plants.

Polyunsaturated fats — These include sesame and sunflower seeds, corn and soybeans, many nuts and seeds, and their oils.

Monounsaturated fats — These include canola, olive and peanut oils, and avocados.

Proteins and amino acids

Proteins are large organic compounds made of amino acids.

Low density lipoproteins /LDL/ - carry cholesterol from the liver to cells of the body. Sometimes referred to as the "bad cholesterol" lipoprotein.

High density lipoproteins /HDL/ - collects cholesterol from the body's tissues, and brings it back to the liver. Sometimes referred to as the "good cholesterol" lipoprotein

FLUIDS

Why do athletes avoid drinking water during a competition?
Because they will lose their power immediately.

Why?
Because water disturbs the balance of solutions in the body. The increasing quantity of molecules of water stick to their own bio-active molecules in the body, therefore, their diameters are increasing.

What does that mean?
In order to do their action, those molecules should penetrate through tiny membrane holes of the cells. But due to the increased size not all of the molecules could physically fit into those holes. The result: the body has necessary chemicals, but not all of them work and the athletes lose their power
What should be done?
Before and specially during competition the athletes need to drink high structured products, which do not increase the diameter of their own molecules

TASK:

Name the main components of nutrition. Can you add other components of proper nutrition?

Which diet is the main source of carbohydrates and fats ?

Explain the difference between LDL and HDL

Why is drinking water not recommended before a competition?

What do you know about energy drinks?