

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 /deəri/ 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 /ʀepka/

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, e.g. bread. 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 an exception, it can't be broken down and passes through the body undigested.

Questions:

1. Name other sources of carbohydrates, simple or complex.

2. Why were simple carbohydrates considered bad for our bodies?
3. Which type of carbohydrates keeps you satiated for longer?
4. Should we include both types of carbohydrates in our diet?

Fats:

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

Match the type of fat with its sources on the right:

Animal fat	coconut oil, palm oil and palm kernel oil (often called tropical oils), and cocoa butter
Vegetable fat	sesame and sunflower seeds, corn and soybeans, many nuts and seeds, and their oils
Unsaturated fats	beef, beef fat, veal, lamb, pork, lard, poultry fat, butter, cream, milk, cheeses and other dairy products made from whole milk
Polyunsaturated fats	primarily in oils from plants
Monounsaturated fat	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.

High density lipoproteins /HDL/ - collects cholesterol from the body's tissues, and brings it back to the liver.

Question: Which of the above is referred to as the "good" and "bad" 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?

Discuss

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?

VIDEO

What to eat before a workout?

<http://www.youtube.com/watch?v=afJEEV-4E4>

Study vocabulary, watch the video and answer the questions:

Vocabulary:

fuel – any material that produces heat or power

to rely on – to need or depend on sth.

demanding – needing a lot of skill or effort

depleted – reduced by a large amount

refill – to fill sth. again

gulp down – to swallow large amounts of food or drink quickly

available – that you can get or buy

suffer from sth. – to be badly affected by sth.

break down (protein) – to divide into parts

(extra) edge – the thin, sharpened side of an object, power, advantage

1. What is the simple answer to the question?
2. Give an example of a low-maintenance task
3. What examples of demanding tasks are given? What type of fuel is needed for them?
4. What is the first and most important rule?
5. What is the second rule?
6. At what stage of exercising are muscles built?
7. Why are proteins before workouts of less use during workouts compared to carbohydrates?
8. What is the “extra” thing you could do before a workout? What type of food should it be?