

How a balanced diet helps sports performers

This poster will help you revise what you need to know about nutrition and exercise

EXAM LINKS

AQA Diet and nutrition

Edexcel Diet and nutrition

OCR The importance of the components of a healthy, balanced diet.

Fats

Unsaturated fats are a major source of energy in the body. They are used for low-intensity aerobic work such as jogging. Fats cannot be used for high-intensity exercise where oxygen is in limited supply, as they require oxygen to be broken down. Fats are also a carrier for the fat-soluble vitamins A, D, E and K.



Carbohydrates

Carbohydrates are the principal source of energy used by the body. They are also the main fuel for high-intensity or anaerobic work. Carbohydrate in food is digested and converted into glucose and enters the bloodstream. The glucose is stored in the muscles and liver as glycogen, but these stores are limited, so regular refuelling is necessary.

Vitamins

The B group vitamins help break down and release energy from food. Vitamin C is required for the breakdown of carnitine, which is a molecule essential for the transport of fatty acids into the mitochondria. The mitochondria convert food sources (such as fats) into energy in the body.



Proteins

Proteins are a combination of chemicals called amino acids, and are important for muscle growth and repair, and to make enzymes, hormones and haemoglobin. Proteins are a minor source of energy and tend to be used more by power athletes, who have a greater need to repair and develop muscle tissue. Generally, proteins tend to provide more energy when glycogen and fat stores are low.



Minerals

Two functions of minerals are to facilitate the transmission of nerve impulses and enable effective muscle contraction, both of which are important during exercise.

Fibre

Fibre is important during exercise because it can slow down the time it takes the body to break down food, which results in a slower, more sustained release of energy.



Water

Water is the main component of many cells and plays an important part in regulating body temperature. When you take part in exercise, energy is required, and some of that energy is released as heat. Water prevents you from overheating, as the evaporation of sweat helps to cool you down. This results in water being lost during the cooling-down process.



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