

# MACRO- AND MICRONUTRIENTS

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*The food that we consume every day consists of macronutrients and micronutrients.*

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Macronutrients are proteins, carbohydrates and fats, such as dairy, meat, legumes, fruits, vegetables and grains, and different fats and oils. Micronutrients are vitamins and minerals. Both types of nutrients provide the energy to our bodies that we need every day. When a variety of food from each of the groups is consumed every day, all required nutrients are provided to the body.

*Hockey players need more energy [food] on hard training days [training 2x per day] than on easy training days or rest and recovery days.*

Common protein sources with descending protein content are: chicken breast, lean beef steak, cheese, salmon, almonds, egg, bread and kidney beans.

Fats and oils are an essential part of a healthy diet in small amounts. They provide essential fatty acids which the human body is not able to produce itself and helps with the absorption of fat soluble vitamins (A, D, E and K). Fats and oils are high in energy and that is why they should be consumed in small amounts only. Saturated fats can raise blood cholesterol levels and through that increase the risk of heart diseases or strokes. For this reason it is recommended to consume unsaturated fats and oils such as nut oils, olive oil, rapeseed oil, canola oil, etc.

Grains, vegetables, and fruits belong to the carbohydrates. They provide the body with starch, sugars and fibers.

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A healthy and well-balanced diet typically provides the vitamins and minerals needed by the body. Vitamins and minerals are essential to prevent anemia (iron), for bone health (calcium) and for other physiological functions of the body.

Micronutrients and minerals: Calcium, iron, magnesium, vitamin A, C, D, E, K, and long chain omega 3 fatty acids, Vitamin B1, B2, B3, B6, B12, folic acid, fluoride, iodine, phosphorus, potassium, sodium, selenium, zinc.

MACRONUTRIENTS		
Nutrient	Function	Source
<b>Carbohydrate</b>	provides energy for the body	bread, rice, potatoes, pasta, breakfast cereals and muesli, quinoa, fruits, vegetables
<b>Protein</b>	provides amino acids, needed for normal growth and maintenance of health; provides energy; for muscle repair	meat, fish, eggs, dairy, cereal products, soya products, nuts and pulses
<b>Fat</b>	essential fatty acids; energy-provider; required for a range of bodily processes, and to maintain normal structure of cells in the body	fats and oils, meat, dairy, oily fish, nuts, seeds and avocados

MICRONUTRIENTS		
Nutrient	Function	Source
<b>Vitamin B1 (Thiamin)</b>	Important for normal functioning of the nerve system and heart; helps release energy from food	bread, nuts, seeds, meat, beans and peas
<b>Vitamin B2 (Riboflavin)</b>	Important for maintaining healthy skin, nervous system and reduces tiredness helps release energy from food	milk and dairy, eggs, mushrooms, almonds; some oily fish (mackerel and sardines)
<b>Vitamin B3 (Niacin)</b>	Important for healthy skin, nervous system; helps reduce tiredness; helps release energy from food	meat, poultry, fish, wholegrains, bread, peanuts and sesame seeds

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<b>Vitamin B6</b>	regulates hormones, and reduces tiredness; important for normal functioning of the immune system; helps to make red blood cells	meat, poultry, fish, egg yolk, soya beans, sesame seeds, bananas, avocado, green pepper
<b>Vitamin B12</b>	regulates hormones, and reduces tiredness; important for normal functioning of the immune system; helps to make red blood cells; helps the nervous system function normally	meat, fish, milk, cheese, cream cheese, eggs
<b>Folic acid</b>	important for nervous system to work, reduces tiredness; helps to make red blood cells	green leafy vegetables, brown bread, peas, beans, oranges, berries
<b>Vitamin C</b>	helps the immune and the nervous system to function properly; protects cells from damage; helps with formation of collagen for bones, gums, teeth and skin	citrus fruits, blackcurrants, strawberries, papaya, kiwi, green vegetables, peppers and tomatoes
<b>Vitamin A</b>	important for vision, helps some linings such as inside the nose function properly; helps the immune system to work properly	cheese, eggs, dark green leafy vegetables, orange-coloured fruits and vegetables such as carrot, sweet potato, butternut squash, cantaloupe melon, papaya
<b>Vitamin D</b>	for strong bones; helps muscles to function normally; supports the immune system to work properly; helps the body to absorb calcium	oily fish, eggs, in summer through exposure to sunlight
<b>Vitamin E</b>	helps to protect the cells in the body against damage	vegetables, olive oil, rapeseed oil, sunflower oil, peanut oil, nuts, almonds, sunflower seeds, avocados, olives
<b>Vitamin K</b>	for normal bone structure and to prevent blood clotting	leafy greens, broccoli, green beans, peas, rapeseed oil, soya oil

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MINERALS		
Nutrient	Function	Source
<b>Calcium</b>	for strong bones and teeth; for normal functioning of nerves and muscles; helps to prevent blood clotting	milk, cheese, yoghurt, cream cheese, kale, rocket, bread, dairy with added calcium and non-dairy alternatives with added calcium
<b>Fluoride</b>	for strong teeth	tap water, tea (also in toothpaste)
<b>Iodine</b>	to produce thyroid hormones; helps normal brain function	milk, yoghurt, cheese, fish, eggs
<b>Iron</b>	for red blood cell production; helps immune system and the brain to function normally	red meat, beans, pulses, nuts, seeds, quinoa, wholegrain bread, dried fruit
<b>Magnesium</b>	for strong bones; helps muscles and nerves to function normally; releases energy from food	brazil nuts, sunflower seeds, wholegrain cereals, wholegrain and seeded breads, brown rice, quinoa
<b>Phosphorous</b>	for strong bones and teeth; helps to release energy from food	red meat, poultry, fish, milk, cheese, yoghurt, eggs, bread, wholegrains
<b>Potassium</b>	helps muscles and nerves to function normally; helps to regulate the water content in the body, for normal blood pressure	bananas, blackcurrants, avocado, spinach, parsnip, beetroot, dried fruits (apricots, sultanas, figs), poultry, red meat, fish, milk, wholegrain cereals
<b>Sodium</b>	helps regulate water content in the body	often added as salt to foods;
<b>Selenium</b>	for healthy skin and nails; helps immune system to function properly; protects cells in the body against damage	brazil nuts, cashews, sunflower seeds, eggs, poultry, fish
<b>Zinc</b>	helps with wound healing; enhances healthy skin, hair and nails	meat, poultry, cheese, nuts, pumpkin seeds, pine nuts, wholegrain cereals, wholegrain breads and seeded breads