

IOC Consensus Statement on Sports Nutrition 2003

The amount, composition and timing of food intake can profoundly affect sports performance. Good nutritional practice will help athletes train hard, recover quickly and adapt more effectively with less risk of illness and injury. Athletes should adopt specific nutritional strategies before and during competition to help maximise their performance. Athletes will benefit from the guidance of a qualified sports nutrition professional who can provide advice on their individual energy and nutrient needs and also help them to develop sport-specific nutritional strategies for training, competition and recovery.

A diet that provides adequate energy from the consumption of a wide range of commonly available foods can meet the carbohydrate, protein, fat, and micronutrient requirements of training and competition. The right diet will help athletes achieve an optimum body size and body composition to achieve greater success in their sport. When athletes restrict their food intake, they risk nutrient deficiency that will impair both their health and their performance. Careful selection of nutrient-dense foods is especially important when energy intake is restricted to reduce body and/or fat mass. Fat is an important nutrient and the diet should contain adequate amounts of fats.

Athletes should aim to achieve carbohydrate intakes that meet the fuel requirements of their training programs and also adequately replace their carbohydrate stores during recovery between training sessions and competition. This can be achieved when athletes eat carbohydrate-rich snacks and meals that also provide a good source of protein and other nutrients. A varied diet that meets energy needs will generally provide protein in excess of requirements. Muscle mass is maintained or increased at these protein intakes, and the timing of eating carbohydrate and protein may affect the training adaptation.

A high carbohydrate intake in the days before competition will help enhance performance, particularly when exercise lasts longer than about 60 minutes. Dehydration impairs performance in most events, and athletes should be well hydrated before exercise. Sufficient fluid should be consumed during exercise to limit dehydration to less than about 2% of body mass. During prolonged exercise the fluid should provide carbohydrate. Sodium should be included when sweat losses are high especially if exercise lasts more than about 2 hours. Athletes should not drink so much that they gain weight during exercise. During recovery from exercise, rehydration should include replacement of both water and salts lost in sweat.

Athletes are cautioned against the indiscriminate use of dietary supplements. Supplements that provide essential nutrients may be of help where food intake or food choices are restricted, but this approach to achieving adequate nutrient intake is normally only a short term option. The use of supplements does not compensate for poor food choices and an inadequate diet. Athletes contemplating the use of supplements and sports foods should consider their efficacy, their cost, the risk to health and performance, and the potential for a positive doping test.

Excessive training and competition are associated with some negative consequences. Robust immunity and reduced risk of infection can be achieved by consuming a varied diet adequate in energy and micronutrients, ensuring adequate sleep and limiting other life stress. Attention to dietary intake of calcium and iron is important in athletes at risk of deficiency but use of large amounts of some micronutrients may be harmful. Female athletes with menstrual disorders should be promptly referred to a qualified specialist physician for diagnosis and treatment.

Food can contribute not only to the enjoyment of life, but also to success in sport.