Abstract

Muscle glycogen, the predominant form of stored glucose in the body, and blood glucose are the main energy substrates for muscle contraction during exercise. Sucrose is an ideal substance for athletes to incorporate because it provides both glucose and fructose. Therefore, it is essential that athletes monitor their diet to maintain and increase muscle glycogen deposits, since they are a major limiting factor of prolonged exercise performance. Carbohydrate-rich diets are also recommended for endurance and ultra-endurance exercise, because they are associated with increased muscle glycogen stores, as well as delayed onset of fatigue. In addition, high carbohydrate diets and carbohydrate intake before and during exercise have shown to be beneficial due to increased concentrations of hepatic glycogen and maintenance of blood glucose. The effect of carbohydrate intake on athletic performance mainly depends on the characteristics of the exercise, the type and amount of carbohydrate ingested and the time of intake. A combination of these factors must be taken into account when analysing individual athletic performance.

Keywords