

Invited Review

# **Recent findings regarding dietary intakes of carbohydrate and fat in athletes: what is the optimal ratio of carbohydrate-fat in the diet?**

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## **ABSTRACT**

A high-carbohydrate, low-fat diet (55-60% energy from carbohydrates and 25-30% energy from fats) has been recommended as an effective dietary strategy to improve athletic performance. However, recent case reports have shown that some elite athletes consume extremely high levels of carbohydrates or fats exceeding the recommended ranges. This review summarizes our recent findings regarding the effects of 1) extremely high-fat, low-carbohydrate diets (ketogenic diets), 2) extremely high-carbohydrate, low-fat diets, 3) moderate-fat diets, and 4) a ketogenic diet containing functional lipids on endurance training-induced metabolic adaptations in skeletal muscle.

**Keywords:** high-carbohydrate diet, high-fat diet, skeletal muscle, mitochondria, fatty acid oxidation