

Impact of Nutrition in Fitness Development and Performance Enhancement for Athletes

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Abstract: *Proper nutrition plays a major role in the fitness and performance of all sports persons, especially in athletes several factors contribute to their key success. Good dietary planning is the major component. Athletes achieve peak performance by eating a balanced diet including a variety of foods that contain carbohydrates, fats, minerals, proteins, vitamins, and water. The athlete's need for optimal nutrition depends on several factors, including the sport, the time available, the goals to be met, as well as physical, psychological, practical, and environmental considerations. Based on each person's unique fitness and dietary planning, daily dietary guidance, and particular guidance before, during, and after training, the diet will vary from person to person. Athletes are required to adhere to the diet recommended by licensed physical education specialists, dieticians, or nutritionists based on their level of physical fitness. A combination of dietary strategies should be used by athletes to improve their overall fitness and performance. For example, eating carbohydrates can provide 40 to 50 percent of the energy needed during exercise while also maintaining high levels of carbohydrate oxidation, preventing hypoglycemia, and having a positive impact on the central nervous system. The requirement for energy is also significantly influenced by fat. Fat can provide 60–70% of the energy needed for ultra-endurance competitions lasting 6–10 hours. Depending on the type and frequency of exercise, an athlete's need for protein may rise. The current RDA for protein is 0.8 grams per kilogram per day, and it is now widely understood that eating protein throughout the day after exercise has many advantages. Athletes must strive to stay adequately hydrated and limit fluid loss during activity to no more than 2% of their body weight. Athletes should consume 5 to 7 mL per kilogram of body mass around four hours before an event to prevent dehydration. Supplementing with vitamins and minerals can significantly improve performance.*

Keywords: nutrition, athlete, fitness, diets, hydration, enhancement

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