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## Importance of diet and nutrition for athletes performance

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### Abstract

Nutrition plays a vital role in sports. It has also a major impact on sports performance. The awareness of nutrition playing an important role for sportsperson and athletes. Many factors can impact the performance of a sports person during competition which may be related to different domains. The most encountered nutritional related problem among sports person is their failure to consume sufficient total of food energy. Balance diet and good dietary practices allow athletes to train hard, regenerate quickly, adapt better, while reducing the risk of illness and injury. Athletes should use appropriate nutritional strategies before and after their performance, to achieve the best results. They should pay special attention to the amount of carbohydrate, protein, fats, vitamins, minerals, in their food.

**Keywords:** Athletes, nutrition, sports, carbohydrate, performance

### Introduction

Nutrition plays a very important role in sports performance. The first requirement in human nutrition is energy source; the metabolic fuels that provide this are carbohydrate, fats, proteins, and alcohol. There is also a need for protein, not only in growth when the total amount of protein in the body is increasing but also throughout life to permit turnover of tissue proteins. In addition, there is a need for some essential fatty acids and for relatively small amount (Milligram or micrograms per day) of vitamins and minerals. A balance diet must supply all the nutrients to full fill the individual requirement for energy and other elements that support metabolism, including water. The individual requirement for each nutrient differs and is depend on age, gender, and level of physical activity. So, all these nutrients are required for proper functioning of body and providing nourishment for the body. Although the sports performance of an athlete depends upon the good nutrition as it enhancing the athlete's performance and help in their growth, development, and overall health. Poor nutrition can lead to poor recovery, injury and fatigue which make their performance down.

### Sports Nutrition

Sports Nutrition can be defined as a study and implementation of a diet or eating plan that is designed to increase athletic performance. Sports nutrition is specialized in the field of Nutrition that mainly study or work on human body and exercise science. It focused on providing the fuel for physical activity, facilitating the repair and rebuilding process following physical work pattern and optimizing athletes' performance in competitive events, while also promoting overall health and wellness. Eating for goals is what sports nutrition is all about. Different nutrient has been explored for their potential to strengthen the athletic performance. The study of sports nutrition is essential, as an athlete challenges his body on regular basis through physical training and competition. So, he requires enough fuel for his body to accomplish his goals on daily basis.

### Importance of Sports Nutrition

Sports nutrition plays a very important role for sportsperson and athletes. It provides awareness to athletes about nutrition and the amount of nutrients required for them in their diet. Sports nutrition is not just about calories to achieve weight or body composition goals, nor it is all about protein for muscles or carbohydrate for fuel. It helps in avoiding potential overweight, reducing motor deficiencies and at the time of performance it makes athlete well

nourished, uninjured, and fit, focused, and ready to compete. Nutrition is important for an athlete because it provides energy required to perform the activity. The food they take leaves an impact on strength, training, performance, and recovery. Not only the type of food is important for sports nutrition but the time is also equally important for what they eat throughout the day, as it gives impact on their performance level. It also impacts on their body ability to recover after workout. An athlete should be careful about when, what, and how much he eats or drinks prior, during and post competition. An athlete should take a meal high in carbohydrate, moderate in protein and low in fat.

### **What are the basic Nutrients?**

Food and beverages are composed of six nutrients that are important to the human body for producing energy, development in growth and tissues, and preventing from deficiency diseases. The nutrients are classified based on two categories: macronutrient and micronutrients. Macronutrients are carbohydrates, proteins, and fats. Micronutrients are vitamins, minerals, and water. The body requires all these nutrients to function properly, enhance performance and provide strength for recovery and prevent from illness and injury.

### **Carbohydrates**

Carbohydrates play an important role in sports. The important role played by carbohydrate is a supply of energy in the body for cell functioning. These simple and complex carbohydrates are good sources of energy for athletes. Its breakdown in the form of glucose in the body, which is used as a source of energy during physical activities. Carbohydrates are essential for an athlete to meet the demand of energy required for exercise and help in maintaining the blood sugar level in the body.

### **Protein**

Proteins are known as the building blocks of the body which are made up of amino acid chains. Proteins are essential for muscle growth and recovery. Protein needs of the most athletes can be met by proper balance diet. Dietary protein intake helps the athlete by providing strength, speed, or endurance training.

### **Fats**

Fats play an important role in the human body by maintaining energy balance, regulating hormones, and restoring muscle tissues. It is also helpful in the absorption of fat-soluble vitamins in the body.

### **Vitamins and Minerals**

Vitamins are required in a wide variety of bodily functions and operations which help to sustain the body healthy and disease-free. The function of minerals is for structural development of tissues as well as the regulation of bodily processes.

### **Water**

The human body can survive for a long duration without any of the macro and micro nutrients but not without water. Staying hydrated is the most important thing an athlete can do. Water is the best way to rehydrate. In athletics, water is important for temperature regulation, lubrication of joints and the transport of nutrients to active tissues. Sports drinks are also beneficial as they provide electrolytes and

carbohydrates. Avoid drinks that contain caffeine. They can dehydrate the body and feel anxious.

### **Conclusion**

Overall review of this paper concluded that the nutrients have the most important role in our daily diet as well as to enhance the sports person's performance. Athletes must fuel their body with appropriate nutritional food like carbohydrates, proteins, fats, vitamins, and minerals to meet their energy requirements in competitions, training, and in recovery. Good nutrition prevents disease, illness, injury and provides strength, and enhances growth and development of performance. So, nutrition plays a very vital role in the development of an athlete's performance.

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