



Maximizing Performance Through Nutrition

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Pre-activity

- ◆ Avoid training or competing on an empty stomach!
- ◆ Have a 300-800 kcal snack or meal 1 1/2 - 2 hours before training.
- ◆ Avoid high sugar foods 1/2 hour to 1 hour before training or competing.
- ◆ Avoid caffeine before training or competing (including energy drinks).

Hydration

- ◆ Dehydration can affect an athlete's performance.
- ◆ Water should be consumed before, during and after physical activity.
- ◆ Drinking too much water or not replenishing electrolytes following periods of intense sweating can lead to hyponatremia.
- ◆ Include sport drinks during competitions, intense periods of sweating or very long training periods.
- ◆ Homemade sport drink: 1/3 100% orange juice, 2/3 water, 1 pinch salt.

Vitamins and Minerals

- ◆ Vitamin and mineral supplements do not improve performance unless the athlete has a vitamin or mineral deficiency.
- ◆ Young women athletes as well as vegetarian athletes should make an increased effort to assure adequate iron levels as they are most likely of becoming deficient (anemic).
- ◆ Foods containing Vitamin C should be consumed with each meal in these cases.
- ◆ Sports anemia does not require supplementation.

Carbohydrates

- ◆ A diet rich in carbohydrates is necessary for endurance training athletes.
- ◆ Glycogen storing is beneficial to athletes training for 90 minutes or more.

Fat

- ◆ Athletes taking part in moderate (aerobic) activities utilize fat as their main energy source.
- ◆ The higher the intensity of the activity, the less an athlete's body utilizes fat as its energy source.

Protein

- ◆ Not a good source of energy.

- ◆ Mostly used for tissue growth and repairs.
- ◆ After at least an hour of training, an endurance athlete depletes glycogen stores and uses proteins for energy.
- ◆ Protein recommendations for:
 - Athletes practicing intense activities: 1.6 - 1.7g/kg/day
 - Endurance training athletes: 1.2 - 1.6 g/kg/day

Protein Supplements

- ◆ Protein supplementation is usually not necessary. Correct protein intake can be achieved through diet.
- ◆ To better develop muscles, a source of high protein should be consumed 1-2 hours after training.
- ◆ Excess protein is stored as fat or in kidneys
- ◆ Whey protein does not increase muscle mass. Diet is enough to achieve same goals.
- ◆ Carnitine does not help burn fat, it does not increase muscle concentration of carnitine, nor does it improve performance.
- ◆ Though some studies show that creatine improves performance during high-intensity activities such as bodybuilding and sprinting, long term side effects are unknown and an athlete's health is at risk if renal disease or other diseases are present.

Post-activity

- Within 30 minutes of activity, consume liquids, 30g or more of carbohydrates and 5-10 g of protein.
- Within 2-3 hours, have a well-balanced meal.

**Athletes should consult a Registered Dietitian to determine specific nutrient and supplement needs for their individual fitness needs.

References

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