

ATHLETES' DUTARY HYGIENE

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Annotation: The functional capabilities of the athlete's body and sports results are directly related to proper nutritional hygiene. The diet should correspond to energy expenditure, training loads and recovery processes. This article discusses the principles of nutrition for athletes, the physiological importance of key nutrients, ensuring water balance, and the rules of nutrition before, during and after training.

Keywords: nutritional hygiene, athletes, protein, fat, carbohydrate, water balance, training load, recovery.

Introduction

For athletes, nutrition is not only a source of energy, but also a key factor in their overall physical fitness, health, psychological stability, and achieving high results in competitions. Proper nutrition ensures the optimal course of all biological processes in the athlete's body: the recovery of muscle fibers, the functioning of the central nervous system, the production of hormones, and the strengthening of immunity, among others.

In sports, especially handball, due to the high intensity of the loads, nutritional hygiene requires special attention. During each training or competition, hundreds of fast runs, jumps, and impact movements are performed, which results in a large amount of energy expenditure, fluid loss, and microtraumas in the muscles. In such situations, a properly structured diet not only provides the athlete with energy, but also accelerates the body's recovery processes.

Energy expenditure, muscle recovery, hormone production, and immune function are directly dependent on the quality of nutrition. For example, protein deficiency leads to a decrease in muscle mass, and a lack of carbohydrates leads to a decrease in quick energy reserves. Also, timely and sufficient consumption of fats, vitamins, and minerals ensures the full functioning of the cardiovascular system, musculoskeletal system, and nervous system.

a scientifically based individual diet that is consistent with sports loads . This diet should strictly control the daily calorie intake, the ratio of protein, fat and carbohydrates, fluid intake and meal times. As a result of proper nutrition, the athlete maintains a high level of performance during training, recovers from fatigue faster and reduces the risk of injury.

Main part

General principles of nutrition

- Balance - the optimal ratio of protein, fat, and carbohydrates (1:1:4).
- Moderation - the amount of calories consumed should correspond to the athlete's daily energy expenditure.
- Rationality - meal times are adjusted to the training and competition schedule.
- Hygiene - the food consumed must meet hygienic requirements and be free of germs.

The importance of nutrients

- Proteins - important for muscle tissue repair and hormone synthesis (1.5-2 g/kg body weight).
- Fats are a source of energy, especially during prolonged exercise. Unsaturated fatty acids are preferred.

- Carbohydrates are a quick source of energy, replenishing muscle glycogen. A combination of simple and complex carbohydrates is necessary.
- Vitamins and minerals - B vitamins, calcium, magnesium, potassium are essential for cardiovascular function.
- Water - Water balance is crucial for athletes. Dehydration of even 2-3% can reduce performance by 20% [Bompa & Buzzichelli, 2019].

Pre-workout and pre-competition nutrition

2-3 hours before training, eat lean protein and complex carbohydrates (e.g., rice, buckwheat, poultry). Avoid very heavy meals. Before the competition, it is recommended to eat foods rich in easily digestible carbohydrates (banana, honey, oatmeal).

Post-workout nutrition

Athletes have a period of time called the “recovery window” within 30–60 minutes after exercise. During this time, the body has the ability to quickly restore muscle glycogen and activate protein synthesis. Therefore, post-workout nutrition is crucial in preparing an athlete for the next workout or competition.

During this period, it is best to consume carbohydrates and proteins together. Carbohydrates accelerate the process of restoring muscle glycogen, while proteins repair microdamages in muscle fibers and strengthen muscle mass. For example, milkshakes, cottage cheese, fruit yogurt, bananas, honey juice, protein-juice combinations are the most convenient options for recovery. Scientific studies show that a ratio of approximately 3:1 of carbohydrates to protein is most effective in the first hour after exercise. That is, consuming 20 g of protein along with 60 g of carbohydrates helps muscles recover faster. In addition, drinking enough fluids (water or sports drinks) after exercise restores electrolyte balance in the body, which reduces the athlete's fatigue. If an athlete neglects post-workout nutrition, muscle glycogen stores will be slowly restored, fatigue will last longer, and performance in subsequent workouts will decrease. Therefore, post-workout nutrition should be considered not just an additional, but a mandatory hygienic requirement for athletes.

Hygienic requirements in food

- Food products must be fresh and microbiologically safe.
- Reduce fast food, carbonated drinks, and excessive sweets in your diet.
- Eat 4-5 meals a day.
- Strict adherence to water drinking guidelines (150-200 ml every 15-20 minutes during exercise).

Conclusion

Athletes' nutritional hygiene is one of the most important factors determining their sports results. Proper nutrition ensures the body's energy supply, muscle recovery and immune stability. For athletes engaged in high loads, such as handball players, a balanced intake of proteins, carbohydrates and fats, a diet enriched with vitamins and minerals, and maintaining water balance are the most necessary conditions. Compliance with hygienic requirements during eating is a guarantee of maintaining the athlete's health and achieving high sports results.

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