

## Winning Nutrition for Athletes

A properly hydrated and fueled body is an amazing machine. Give it enough water and the proper mix of fuels and it will go on forever. Or at least long enough to swim 2.4 miles, bike 112 miles and run 26.2 miles (in an Ironman Triathlon). It would be impossible to accomplish these and other difficult endurance feats without eating and drinking while on the move.

Equally important is how you meet your fluid and fuel needs on a daily basis. Even if you're just starting out, running your first 10k road race or hiking along local trails, frequent colds and illnesses, injuries and poor training days can stop you in your track. Paying attention to your nutritional needs will help you stay on course!

### What diet is best for athletes?

All athletes need a diet that provides enough energy in the form of carbohydrates and fats as well as essential protein, vitamins and minerals. This means a diet containing 55-60% of calories from carbohydrates, 25% of calories from fat and the remaining 15% from protein.

This translates into eating a variety of foods every day including whole grains, vegetables, fruits, beans, lean meats and low fat dairy products or their alternatives. The base of the diet should come from carbohydrates. Fluids, especially water, are also important to the winning combination. Dehydration can even stop the finest athlete from playing their best game.

When starches or sugars are eaten, the body changes them all to glucose, the only form of carbohydrate used directly by muscles for energy. Most glucose is stored as glycogen in the liver and muscles. During exercise glycogen is broken down in the muscles and provides energy. Usually there is enough glycogen in muscles to provide fuel for 90-120 minutes of exercise.

Most exercise and sport games do not use up glycogen stores so eating carbohydrates during the activity usually is not needed. But for some athletes, eating or drinking carbohydrates during exercise helps maintain their blood glucose and energy levels.

### Do athletes need extra protein or protein supplements to build muscle?

No. Muscles develop from training and exercise. A certain amount of protein is needed to help build the muscles but a nutritious, balanced diet that includes two or three servings from the protein family (meat, beans, eggs, nuts and seeds, tofu, etc.) will supply all of the protein that the muscles need.

Extra servings of protein in foods or protein supplements do not assist in muscle development. Unlike carbohydrates, protein cannot be stored in the body and any excess will be burned for energy or stored as body fat. There are serious health concerns associated with excess protein consumption including clogging of the colon and stress on the kidneys.

## Game Day

The most important thing is to concentrate on eating a nutritious, balanced diet every day. This provides plenty of energy to grow and exercise. Here are a few tips about eating before, during and after the big game!

### Before

The timing of the meal depends on athletes' preference for eating before exercise, but researchers have found that eating something high in carbohydrates from 1 to 4 hours pre-game helps keep plenty of blood glucose available for working muscles.

Here are some favorites:

<b>Pre-race porridge</b>
1 cup cooked long grain brown rice
1 cup kale
1 banana
1 tbsp. Black strap molasses
Take the cup of cooked rice. Mix in the kale. Add sliced banana. Fold in the molasses to cover all ingredients in mixture.
<b>Dietary composition</b>
8%protein; 86% carbohydrates; 6%fat

<b>Berry blast energy smoothie</b>
½ cup of strawberries, blueberries, and raspberries.
½ cup low-fat silken tofu
¼ cup cranberry juice
2tbsp. Wheat germ
1tbsp. Honey
Blend together.
<b>Dietary composition</b>
141 calories 9% fat; 72 % carbohydrates; 19% protein

### During

Perspiration and exertion deplete the body of fluids necessary for an optimal performance and lead to dehydration. Here are some hydration tips:

- Drink one to two cups of water when you get up in the morning
- Keep a water bottle with you throughout the day.
- Drink one to two cups of fluid 30 minutes before exercise
- Drink ½-1 cup fluid for each 15 minutes of exercise.
- Water is fine for lower intensity exercise lasting 45 minutes or less. Adding in some fruit juice is a better option for higher intensity exercise lasting 45 minutes or more.

The irony is that many athletes think that they need to take extra salt to replace what is lost in their perspiration when they exercise. But the truth is, what is being lost is not sodium, but potassium. It has been advised that taking salt tablets actually encourage sodium deficiency because it impedes your production of aldosterone (the hormone that increases the amount of sodium and water in the

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blood by causing re-absorption of more from the kidneys). A better idea than salt tablets is a glass of fruit or vegetable juice, which gives you balanced quantities of sodium and potassium and perks you up almost instantly. Salt tablets on the other hand, do not reach your tissues for a long time after you take them.

### After

If the exercise was strenuous and lasted for a long time, glycogen stores may need refueling. Consuming foods and beverages right after exercise will replenish glycogen stores if they are low after exercising.

No matter the intensity of the exercise, it is important to drink plenty of water and eat a nutritious, balanced meal that has lots of carbohydrate rich foods such as whole grains, pastas, potatoes, vegetable and fruits.

<b>Spinach Ziti Casserole</b>
1 pound ziti or other pasta
1 medium onion, chopped
2 tsp. Vegetable oil
16 oz. Tomato sauce
2tbsp. Oregano
½ tsp. Black pepper
½ tsp. Chili powder
1 10-ounce package frozen spinach, thawed and squeezed dry, or use fresh
16 Ounces non-fat cottage cheese
1 15 ounce can kidney beans, drained and rinsed

Cook pasta according to directions in a large saucepan. When done, drain and return to saucepan. Meanwhile, sauté onion in oil in a medium saucepan over low heat for 5 minutes. Add tomato sauce, oregano, pepper, chili powder and spinach. Cook over low heat for 15 minutes. Add sauce, cottage cheese and kidney beans to pasta and mix together. Pour a 2-quart baking dish, cover and bake in a 350-degree oven for 20 minutes. If desired, you can skip baking the casserole and just heat thoroughly in a pot and serve.

### Nutritional information

444 calories; 69% carbohydrate; 23% protein; 8% fat

### Is nutritional supplementation helpful?

Supplementing with a few vitamins, minerals and herbs can enhance any athlete's game. Here are a few of the more important ones.

<b>Supplement</b>	<b>Amount recommended</b>
<b>Multivitamin</b>	3-6 capsules or tablets in divided doses
<b>B-complex</b>	50 mg twice-three times a day
•These are important as they are lost rapidly with exercise	
<b>Potassium</b>	100-200 mg
•Essential for nerve conduction, muscle and heart function and to prevent spasm	
<b>Calcium/Magnesium</b>	1000mg/500mg
•These are required for muscle contraction and relaxation, nerve conductivity, and bone strength and delivery of O <sub>2</sub> to muscles.	
<b>Antioxidants</b> (Vit A,C,E and Selenium- in combo)	

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•Needed to counteract the tissue irritation, inflammation and loss of energy caused by free radicals during exercise.	
<b>Extra Vitamin C</b>	2000-4000 mg
•Reduces the risk of all musculoskeletal irritation and injury.	
<b>EFA's</b>	1000-3000mg per day
•To reduce pain and inflammation involved with exercise programs.	

### Herbal Recommendations

A great mineral rich and nutritious tea can replace the above minerals and is an easy way for the body to absorb nutrients.

Equal parts of the following herbs:

- Raspberry leaf
- Nettles
- Alfalfa
- Horsetail
- (Add in some Rosehips for extra vitamin C)

Let steep 10 minutes, strain and enjoy three times a day.

The following herbs should be taken under the care of a qualified herbal practitioner as excess doses may cause negative side effects.

- For extra endurance and stamina try taking Ginseng. Korean ginseng is the superior one to take to help improve the body's capacity to withstand mental, emotional and most of all physical stress.
- Another herb named Cola nitida (similar in structure to caffeine), when taken in very small doses can give you the perk you need

In order to have success in the gym and on the field it is imperative to eat a well balanced diet to meet the demands of the body. Remember these tips the next time your game has fallen off course!

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