

## Sports Nutrition for the Vegetarian Athlete

Types of Vegetarianism:

- Pescatarian: abstain from eating all meat and animal flesh with the exception of fish; does eat dairy products and eggs
- Flexitarian: mostly vegetarian diet, but occasionally eat meat
- Semi-vegetarian: only fish and chicken meat eaters
- Vegaquarians: only vegetables, grains, dairy products, and fish
- Lacto-ovo vegetarian: eats no meat, but will eat dairy products and eggs
- Lacto-vegetarian: does not eat eggs, but does eat dairy products
- Ovo-vegetarian: do not eat meat or dairy products but do eat eggs
- Vegan: do not eat meat, eggs, dairy products, or processed foods containing these or other animal-derived ingredients such as gelatin.

There are plenty of substitutions that can be made to help make up for the gap that is left by a meatless diet.

Vegetarians tend to be deficient in Vitamin D, Zinc, Iron, Protein, Calcium, Riboflavin, Omega-3s, and Vitamin B12.

A deficiency in B12, Zinc, Iron, and/or Protein can hurt your exercise and strength training performance!!

The PRIMARY concern for a vegetarian, particularly a vegan, athlete is getting adequate sources of energy and protein.

**Protein:** needed for tissue repair, building and repairing muscles, building red blood cells and synthesizing hormones and enzymes.

**Sources:** Soy products, dairy, green leaves, avocados, dates, bananas, olives, nuts, whole grains, some root vegetables (sweet potatoes), legumes, tofu, peanut butter, edamame

To decrease their risk for protein deficiency, vegan athletes should vary their sources of protein and rely heavily on legumes and beans.

**Vitamin B12:** Needed for protein synthesis, production of normal red blood cells, and aids in energy metabolism; deficiency can result in anemia.

**Sources:** breakfast cereals, brewers' yeast, soy, eggs, cheese, milk, yogurt, clams, mussels, supplements!!

**Iron:** Iron is an essential part of red blood cells that helps transport oxygen to the muscles. Iron combines with protein and copper in making hemoglobin. The main symptoms of deficiency in an athlete are weakness and rapid fatigue upon exertion.

**Sources:** kidney beans, tofu, shrimp, wholegrain cereals, leafy green vegetables, figs, lentils, some dried fruit, bran, black beans, pinto beans, oatmeal, soy beans, potato, watermelon, raisins, Brussels sprouts

**Vitamin C** helps you absorb these non-heme iron (iron found in non-meat products) options (fruits and vegetables).

Coffee, whole grains, bran, legumes, and spinach interfere with iron consumption.

**Calcium:** Important to bone growth and formation, blood clotting, and nerve and muscle functioning. Athletes with low dietary calcium may have increased risk of bone fractures and stress fractures.

**Sources:** dairy, spinach, collard greens, kale, fortified orange juice, sesame seeds, broccoli, almonds, carrots, soy, cheerios

**Zinc:** Helps speed up the healing process after injury, protects against sunburn/windburn, protects against accelerated aging of the skin and muscles. Zinc is vital to immune resistance, wound healing, reproduction, and physical growth.

**Sources:** whole grains, dried beans, sea vegetables, fortified cereals/grains, soy, nuts, peas, seeds, oysters

**Vitamin D:** Needed for bone growth and bone remodeling by osteoblasts and osteoclasts, as well as modulation of cell growth, neuromuscular and immune function, and reduction of inflammation.

**Sources:** fortified milk, yogurt, eggs, fatty fish, soy products, fortified cereals, mushrooms, sunlight!!

**Riboflavin:** Essential for cell growth and the production of energy, therefore essential to athletic performance.

**Sources:** soymilk, portabella, almonds, spinach, quinoa, almond butter

Especially low in vegans, mainly because there are no dairy products consumed.

**Omega 3s:** Essential fatty acid which promotes good heart health and works as an anti-inflammatory.

**Sources:** almonds, walnuts, flax seeds, sunflower seeds, algae, hempseeds, olive oil, avocado

Fats and Carbohydrates are still very important for vegetarian and vegan athletes!

**Fats:** Fats are essential for the metabolism of various vitamins (A, D, E, K), immune function, nerve myelination, repair of the body tissues and is a source of energy during periods of high demand associated with starvation. The focus of the vegetarian athlete's diet should be on foods that are high in mono- and polyunsaturated fats, such as nuts and nut butters, seeds, tahini, olives, avocados, and plant oils, such as olive oil.

**Carbohydrates:** A diet based on plant sources and high in fruit and grains is naturally rich in carbohydrate. A high carbohydrate diet is essential to optimize muscle glycogen stores, which are the preferred source of energy during prolonged activity. It is crucial to obtain adequate carbohydrates for energy so protein is not used as an energy source.

**Good Carb Sources:** fruits, vegetables, grains, honey

Tips:

- Supplement the diet with high-energy foods, such as nuts, heart-healthy oils, dried fruit and other nutrient-dense foods.
- Try to eat small, frequent, nutrient-packed meals throughout the day to keep energy and blood glucose levels stable.
- Monitor protein intake in order to avoid protein deficiencies.
- Maintain a healthy body weight to prevent excessive weight and nutrient loss.
- Consume adequate calories to recover the energy burned during training.