



Vegetarian Nutrition

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RD Resources for Consumers:

Sports Nutrition for Vegetarians

Optimal exercise training and performance depend on good nutrition.

For optimal performance the athletes' diet should contain mostly wholesome unprocessed foods and be high in carbohydrate, low to moderate in fat and adequate in protein, vitamins, minerals and fluid. A vegetarian diet easily meets these requirements and offers additional health and performance advantages. The key is choosing a variety of whole-grains, pasta, cereal, fruit, vegetables, legumes, soy products, nuts and seeds, and if desired, dairy and eggs.

Carbohydrate: The Fuel of Choice

As our body's preferred fuel, carbohydrate should make up the bulk of the diet. Carbohydrate is needed to feed our muscles and brain. Research shows that carbohydrate—which is converted to instant fuel—helps athletes perform their best. A vegetarian diet is naturally carbohydrate-rich with whole grain, pasta, rice, cereal, vegetables (including high starch vegetables like corn, squash and sweet potatoes), and fresh and dried fruit. All these carbohydrates should be a part of an athletes diet.

"Glycogen" is the term used when carbohydrate is stored in the muscle and liver. Both glycogen stores and carbohydrate eaten before exercise supply energy. Fat is also used for energy during exercise but because it can not supply energy fast enough, it's not a good source of fuel for short hard bouts. Starting exercise with more stored glycogen, from previous carbohydrate-rich meals, can help prevent fatigue. Carbohydrate-packed whole foods also provide fiber, protein, vitamins, and minerals.

Dietary Fat

Fat fuels longer activity, such as long distance running and cross-country skiing, and is necessary for overall health. Pre-exercise meals, however, should not be heavy in fat as it slows digestion. Dietary fat should be eaten in the right balance with carbohydrates as too much fat can replace needed carbohydrate calories. Saturated or highly processed trans fat can raise "bad" LDL cholesterol levels and increase risk for heart disease (even in athletes). Consume between 20 and 35% of total daily calories from healthy fats; high fat diets (>70%) are not advised. An easy way to balance fat and carbohydrates is to add small amounts of plant-based fat like nuts, seeds, avocado, olives, olive oil, canola oil, and soy foods to carbohydrate foods.

Protein

Intense or prolonged exercise increases protein needs because protein repairs small muscle tears that happen during exercise. Vegetarian athletes can easily meet protein needs provided the diet meets energy (calorie) needs and contains a variety of protein-rich plant foods such as legumes, soy foods, nuts, seeds and whole-grains. Egg and dairy foods can be included as desired. Vegetarian athletes who restrict calories to lose weight should include protein-rich foods at most meals. All athletes should eat a snack or meal rich in protein and carbohydrates after hard training to enhance recovery and replace glycogen stores. Recommendations for endurance and strength-trained athletes range from 1.2-1.7 g/kg body weight per day. Example: an athlete weighing 75 kg (or 165 pounds) would need a range of 90-127.5 grams of protein per day.

Other Nutrients

B vitamins. Regularly eating legumes and whole- or enriched-grain products helps meet the requirement for the B vitamins. Vegan athletes avoiding animal foods should take a B12 supplement or eat B12-fortified foods (such as soy or rice milk, meat analogs, and breakfast cereal).



Antioxidant vitamins. A varied diet with whole-grains, fruit, vegetables, nuts, and seeds provides “antioxidants”—vitamins C, E and beta-carotene—as well as “phytochemicals”. Many antioxidants and phytochemicals reduce damage to muscle and other tissue and enhance recovery after exercise. Vegetarians eat more plant foods therefore can be expected to consume more phytochemicals.



Calcium. Calcium builds healthy bone and muscles. Fortified soy or rice milk, calcium-set tofu, fortified fruit juice, collards, broccoli, kale, mustard greens, turnip greens, milk, cheese, yogurt, dried figs, and blackstrap molasses are good calcium sources that are easy to pack into an active lifestyle.



Vitamin D. Vitamin D is needed for healthy bone and a healthy immune system. Athletes who live in northern latitudes, train indoors, or use sunscreen may lack vitamin D. In colder months (or year round for those with darker skin) vitamin-D fortified foods and a vitamin-D supplement is encouraged. Experts recommend 1000 to 2000 IU per day of vitamin D3 or vitamin D2 (vegan vitamin D). Spending just a few minutes outside in their exercise shorts several times a week let’s light-skinned athletes make enough vitamin D in their body.



Resources

Messina V, Mangels R, Messina M. The Dietitian’s Guide to Vegetarian Diets: Issues and Applications, 2nd ed. Sudbury, MA. Jones and Bartlett Publishers; 2004.
Larson-Meyer, Enette. Vegetarian Sports Nutrition. Champaign, IL. Human Kinetics Publishers.

Iron. Iron carries oxygen in the blood to exercising muscles. Poor performance results from low iron stores. Vegetarian athletes can meet their iron needs without supplements if they choose iron-rich plant foods daily. These foods include legumes, dark green vegetables, prunes, blackstrap molasses, and enriched breads. Combining these with foods high in vitamin C, like tomatoes, citrus fruit, melon, kiwifruit, broccoli, or peppers, boosts iron absorption from plant-based sources. Avoid tea with meals or large servings of whole wheat crackers and unleavened whole grain breads as these contain “phytate” which decreases iron absorption. A wise tip—cooking in iron skillet adds iron to certain foods like tomato sauce.



Water, Electrolytes and Carbohydrate Before, During and After Exercise

Knowing fluid losses is important because we do not always feel thirsty during exercise. Dehydration and over-hydration both decrease performance and can be dangerous. Although drinking plain water is fine for most sporting events, beverages containing electrolytes and carbohydrates, including “sports drinks” and diluted fruit juice with a pinch of salt, can help maintain fluid balance and may even increase exercise performance. Use the table below to determine the right amount of fluid to consume before, during and after prolonged exercise. Try this— weigh yourself before and after exercise. For every pound lost, drink 2 cups of fluid. Remember, thirst is a faulty way to check dehydration.

Concluding Guidelines

To recap the health and possible performance advantages of a vegetarian diet, remember to select a diet containing a variety of mostly unprocessed vegetarian foods which should include whole-grains, pasta, cereal, fruit, vegetable, legume, nuts and seeds, and if desired, dairy products and eggs.