

When a vegetarian diet is well planned it can meet your nutrient needs for training and competition. Below are some helpful suggestions to get enough energy and to replace key nutrients found in animal foods.

Energy (Calories)

How many calories you need depends on factors like body size, sex and your specific sport and training level. If you find it hard to gain or maintain your weight, you may need to eat more frequent meals and snacks and enjoy higher energy foods. Try these tips:

- Sip on smoothies made with fresh fruit, plain yogurt, including Greek varieties, and milk or fortified soy beverage. Add in a little wheat germ, ground flax or ground almonds for a nutrient boost.
- Carry snacks with you. Homemade whole grain muffins, cheese, nuts, seeds and dried fruits like raisins and apricots are all energy-rich snacks.
- Add sliced or mashed avocado to sandwiches and wraps.

Protein

Protein needs are the same for vegetarian and non-vegetarian athletes: 1.2 to 2.0 grams of protein per kilogram of body weight daily. For a male weighing 70 kg (154 pounds) this would equal 84-140 grams of protein a day.

Choose a variety of different types of protein foods over the course of the day.

Take a look at the following table for the protein content of various plant foods.

Food	Protein (grams)
Tofu, regular, firm or extra firm – 175 mL (3/4 cup)	15
Pumpkin and squash seed kernels – 60 mL (1/4 c)	17
Veggie soy burger – 1 (70 g)	14
Lentils (boiled) and beans, cooked or canned (various types) – 175 mL (3/4 cup)	9-14
Peanut or nut butters – 30 mL (2 tbsp)	5-8
Fortified soy beverage, unsweetened – 250 mL (1 cup)	7
Mixed nuts, dry roasted (shelled) – 60 mL (1/4 cup)	6
Whole wheat spaghetti – 125 mL (½ cup) (cooked)	4
Mixed-grain, whole grain bread - 1 slice (35 g)	3-4
Rice, brown, long grain (cooked) – 125 mL (1/2 cup)	3

Source: Health Canada. Canadian Nutrient File, version 2016



Vitamins and Minerals

Iron

Vegetarians need almost twice the iron of non-vegetarians because iron from plant foods is poorly absorbed. Training can increase your need for iron too.

Iron is critical for athletes because it helps the body use and carry oxygen to active muscles. Iron deficiency leads to fatigue and can impair your performance.

Here are some tips to getting enough iron:

- Eat iron-rich foods every day. Choose from legumes (dried beans, peas and lentils), cooked dark green leafy vegetables like spinach and kale, squash and pumpkin seeds, soy, and whole grain or fortified cereals, breads and pastas.
- Include a source of vitamin C at meals and snacks to help your body absorb the iron from plant foods. Examples include citrus fruits like oranges and grapefruits and their juices, berries, bell peppers, and broccoli.

Vegetarian athletes should have their iron checked at least yearly by their doctor to determine if a supplement is needed. Taking iron supplements without having your blood checked, or taking too much iron from supplements may be harmful.

Calcium and vitamin D are important for healthy bones, teeth, muscles and nerve function. Milk and milk products or fortified soy beverages, canned salmon or sardines (with the bones), and some fortified orange juices provide both nutrients.

Calcium is found in good amounts in almonds, white and navy beans, tahini, tofu set with calcium, cooked turnip, collard greens, or kale.



Vitamin D is made when the sun hits bare skin. In the late fall or winter in Canada, our bodies can't make enough vitamin D from the sun. If you train indoors most of the time, you may be 'at risk' for low vitamin D and supplementation may be necessary. Experts recommend that 'at risk' athletes aged 19-50 years supplement with 200 IU of vitamin D daily and if you are over 50 years old, take a vitamin D supplement of 400 IU a day.

Vitamin D3 (cholecalciferol) in supplements or fortified foods such as milk and yogurt is usually from an animal source such as lanolin. If you want a plant source of vitamin D in your supplement or fortified food such as almond, rice or soy milk, choose products made with vitamin D2 (ergocalciferol). Check the food label.

B vitamins are needed for releasing energy in your body, building and repairing tissues and for healthy red blood cells. They are found in a wide variety of foods including some whole grains and enriched grain products like pasta and cereals, meat, fish, poultry, milk products, legumes and some vegetables such as potatoes and leafy green vegetables.

Vitamin B12 is found naturally only in animal foods such as meat, poultry, fish, eggs and milk products such as yogurt and cheese. If you don't eat any animal products, include foods fortified with vitamin B12 such as almond, rice and soy beverages, cereals, nutritional yeast and meat substitutes such as veggie burgers. Check the Nutrition Facts on the food label to know if the foods have been fortified with vitamin B12.

Antioxidants

There are a variety of antioxidants like vitamins C, and E, beta-carotene and selenium that help protect your body's cells from damage after exercise. It is recommended to get antioxidants from nutrient-rich foods like vegetables, fruits, nuts, whole grains and legumes, and not from supplements.

The Bottom Line

Athletes may have greater needs for some nutrients. If you get enough energy (calories) from food and eat a variety of foods from all of the food groups, you should be able to meet most of your nutrient needs. Iron may be an exception.

If you restrict your calories, or don't eat foods from one or more food groups, then you may need to take a daily multi-vitamin/mineral. Talk to a registered dietitian who specializes in sports nutrition to help you plan your meals. You can also use [eaTracker](#) to check your food and activity choices and track your progress.



This fact sheet is distributed compliments of: