

Combining the Vegetarian Diet with the Gluten-Free Diet

Frequently Asked Questions

Key Takeaways:

- **Well-planned, carefully balanced** vegetarian diets are healthy and nutritious. They may even help prevent certain chronic diseases, including heart disease, high blood pressure, and type 2 diabetes, assist with managing your weight, and may reduce your risk of cancer.^{1,2}
- Removing gluten from the diet can seem a lot more difficult to a person who is already following a vegetarian diet. It is possible to follow both of these diets and be healthy, but it is essential to pay special attention to specific nutrients that may be lacking.
- It is common for patients who have celiac disease to experience lactose intolerance when first diagnosed. This usually improves as the intestine heals, but it may be necessary to reduce or limit lactose in the diet temporarily.
- Eating too many processed gluten-free, vegetarian foods may result in poor nutritional status and weight gain.

Q: What is a vegetarian?

A: A vegetarian is a person who does not eat meat, and may avoid other animal products. There are different types of vegetarian diets, ranging from those who eat dairy and eggs, to those who consume no animal products at all (vegan diet). This article focuses on the vegetarian diet.

Lacto-Ovo Vegetarian: Excludes meat, poultry, and fish/seafood; includes dairy products and eggs. Nutrients that may be lacking include iron, zinc, omega-3 fatty acids, and protein.

Lacto-Vegetarian: Excludes meat, poultry, fish/seafood, and eggs; includes dairy products. Nutrients that may be lacking include iron, zinc, omega-3 fatty acids, choline, and protein.

Ovo-Vegetarian: Excludes meat, poultry, fish/seafood, and dairy products; includes eggs. Nutrients that may be lacking include calcium, Vitamin D, Vitamin B-12, zinc, iron, omega 3 fatty acids, and protein.

Vegan: Excludes all animal products, especially meat, poultry, fish/seafood, eggs, and dairy products. Nutrients that may be lacking include calcium, Vitamin D, Vitamin B-12, zinc, iron, omega 3 fatty acids, iodine, choline, and protein.

A gluten-free, vegetarian diet may lack the nutrients listed above, as well as fiber.

Q: I was told that I needed to get more calcium and Vitamin D into my diet to protect my bones. How can I do that on a vegetarian, gluten-free diet?

A: Add more calcium to your diet by including certain green leafy vegetables such as bok choy, broccoli, Chinese cabbage, collards, and kale. Choose calcium-fortified plant-based beverages, such as soy, hemp seed, pea and nut, making sure any plant-based beverage you select is labeled gluten-free. You'll also find calcium in fortified gluten-free cereals, calcium-fortified juices and tofu (made with calcium sulfate in a water base). Nuts, seeds, blackstrap molasses, tahini, and teff are also sources of calcium in the vegetarian/gluten-free diet. Additional high calcium choices are available on CeliacNow.org under Educational Materials. Still, it may be necessary to take a gluten-free calcium supplement if you are unable to get enough calcium in your diet. Discuss this with your healthcare team.

Getting enough Vitamin D from food alone may be difficult. Many Americans, even those without celiac disease, are deficient in Vitamin D. The body produces some of its own vitamin D from exposure to the sun, but it's likely not enough to prevent deficiency. For most people with celiac disease, it is necessary to take a gluten-free vitamin D supplement. Vitamin D supplements are needed by vegetarians whose intake of fortified foods is insufficient to meet their needs.³ Discuss what vitamin D supplement may be best for you with your healthcare team. Your healthcare provider should monitor intake, supplement use, and your bloodwork to guide you.

Studies indicate that bone fracture rates in lacto-ovo-vegetarians may be similar to those in omnivores (meat eaters), but available data on vegetarians is not large. More research is needed in this population to understand how diet affects bone health.⁴

Q: When I was diagnosed with celiac disease, I was also told I that I have anemia. How can I get enough iron without eating meat? Do I need more iron because I'm a vegetarian?

A: Iron-deficiency anemia is common in those newly diagnosed with celiac disease. Short-term use of gluten-free iron supplements may be recommended by your healthcare provider depending on your bloodwork.

Research shows that vegetarians may consume as much or more iron-rich foods as meat eaters. Yet, the iron stores in a person following a vegetarian diet may be lower than those found in a meat eater.⁵ In addition, the iron found in plant foods (non-heme)

is not as available to the body as the iron found in meat (heme).² Certain natural compounds called phytic acid (found *primarily* in beans, seeds, nuts and grains) and polyphenols (such as tannic acid) found in some vegetables, fruits, some cereals and legumes, tea, coffee, and red wine will inhibit the absorption of iron.⁵

Here's the good news! Recent research shows that vegetarians can adapt and absorb non-heme iron more effectively over time. The ability to absorb non-heme iron can be as much as 10 times greater in iron deficient individuals. As an extra benefit, the effect of phytic acid and other compounds that inhibit iron absorption decreases over time in vegetarians.⁵

To get more iron into your diet, choose labeled gluten-free whole grains including quinoa, amaranth, and teff. Most gluten-containing breakfast cereals are fortified with iron, but that is not the case with many gluten-free choices. Choose soybean, chickpea, or buckwheat flour, and select fortified gluten-free cereal, bread, and pasta whenever possible. **All grains and flours should be specifically labeled gluten-free.**

Other sources of iron include blackstrap molasses, spinach, Swiss chard, broccoli, collard greens, tahini, peas, lentils*, beans, nuts, seeds, soybeans, soy nuts, and edamame. Pair these high-iron foods with foods that are high in vitamin C, such as citrus fruit, strawberries, kiwi, bell peppers and tomatoes, to improve absorption. Stay in touch with your doctor and dietitian who will monitor your iron stores and recommend supplements, as needed. All nut and seeds should be specifically labeled gluten-free whenever possible.

Q: I'm a little worried I'm not getting enough protein in my diet. What are some good sources of gluten-free, vegetarian protein?

A: Someone following a vegetarian diet needs to take in more protein than a meat eater because the plant-based protein sources are not as bioavailable to the body. However, most people, vegetarians included, get plenty of protein from their diet.

Good vegetarian sources of protein include nuts, nut butter, seeds (flax, chia, pumpkin and sunflower), peanuts, dried beans, lentils*, peas, labeled gluten-free whole grains such as quinoa, amaranth, teff, and oats, soy milk, edamame and tofu. **Nuts, seeds, and all gluten-free whole grains should be labeled gluten-free.** Vegetarians who include dairy in their diet can also use cow, goat or sheep's milk, yogurt and cheese as protein sources. Some vegetarians include eggs, which is another source of protein.

Click here to read about protein for athletes on a vegetarian diet. You can make some simple changes to make it gluten free: <https://www.eatright.org/fitness/training-and-recovery/building-muscle/building-muscle-on-a-vegetarian-diet>

Q: Ever since I was diagnosed with celiac disease, I've been constipated. How can I get more fiber into my gluten-free, vegetarian diet?

A: Fiber can help prevent and treat constipation. Instead of processed gluten-free foods, choose more fruits, vegetables, nuts, seeds, lentils*, chick peas, dried beans and labeled gluten-free whole grains. Don't forget to drink plenty of fluid, particularly water, as well.

If you have difficulty getting enough fiber from the food you eat, talk to your dietitian about recommendations for gluten-free fiber supplements and other dietary tips for constipation. If constipation continues despite adding more fiber and water to your diet, talk to your healthcare provider.

Q: What about omega-3 fatty acids? Do I need a supplement?⁵

A: The dietary intakes of the fish-based long-chain n-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), are lower in vegetarians than in meat eaters. The intake of α -linolenic acid (ALA), the concentrated plant source of n-3 fatty acids, is equivalent in vegetarians and meat eaters. The Dietary Reference Intake recommends 1.6g and 1.1g of ALA daily for men and women, respectively. Vegetarians may need additional ALA in order to convert it in the body to DHA and EPA. Choose good sources of ALA. Seeds (flax, chia, and hemp), walnuts, and their oils hold the most concentrated plant sources of n-3 fatty acids. Ask your healthcare provider if you would benefit from an algae-based, gluten-free omega-3 supplement.

Q: What foods should I choose to make sure I get enough zinc?

A: Zinc is a trace mineral that is only needed in small amounts by the body. Vegetarian sources of zinc are found in wild rice, teff, navy beans, hemp seeds, and pumpkin seeds. Seeds and all gluten-free whole grains should be labeled gluten-free. Dairy and eggs are good sources of zinc for those that consume them. Due to inflammatory changes in your small intestine from celiac disease, some micronutrient deficiencies, such as zinc, might arise. Testing the level of zinc in your blood allows your doctor to correct it by recommending more zinc-rich foods, a standard gluten-free multivitamin with zinc or, in some cases, an additional short-term zinc supplement. Your

gastroenterologist or dietitian will determine the dose and length of time on supplementation. Do not hesitate to contact them at any time with questions.

Q: Is the vegetarian diet automatically healthy?

A: You likely already know that the answer is “No.” Meatless eaters can easily fill up on processed foods such as vegetarian frozen meals, cheese that contains saturated fat and sodium, and cookies, chips, and sweetened cereals high in added sugar and/or fat. When possible, choose whole foods. Read the label for low levels of saturated fat and sodium, and low levels of (or no) added sugars. Avoid trans fats. Enjoy gluten-free vegetarian meals loaded with vegetables, fruits, gluten-free whole grains, lentils* and dried beans, and healthy oils. A few examples: bean burritos made with gluten-free corn tortillas, tofu and vegetable stir-fries, or lentil chili.⁶

Q: What about B12 for vegetarians on the gluten-free diet?

A: The degree of B12 deficiency varies greatly in the celiac population.⁷ Since vitamin B12 can only be found in animal products and a few types of fortified foods, it can be challenging to get enough B12 on the gluten-free/vegetarian diet. Those rarely using animal products need several servings of a reliable vitamin B12 source daily. Vitamin B12 is added to some brands of vegetarian foods including soy milk, nut, pea and rice milk, some breakfast cereals, pastas and breads, some meat alternatives, and nutritional yeast labeled gluten free.

The recommended daily intake of vitamin B12 for adults is 2.4 mcg. If B12 cannot be obtained regularly from these sources, a daily vitamin B12 supplement with at least 100% daily value of B12 is needed. Talk to your dietitian or doctor. Depending on your diet and labs, you may benefit from taking a standard gluten-free vitamin and mineral supplement or a separate gluten-free B12 supplement.

Q: Is iodine an important mineral for vegetarians?

A: Iodine is an essential component of the thyroid hormones, the body’s immune response, and many other bodily functions.⁸ Although plant-based diets can be low in iodine, key sources of iodine, including iodized salt and sea vegetables, are readily available to vegetarians. Good vegetarian sources include gluten-free grain products and dairy and eggs (for lacto-ovo vegetarians).⁸ Many multivitamins also contain iodine in the form of potassium iodide or sodium iodide. The adult RDA for 150 mcg/day iodine can be met by daily intake of a little over ½ teaspoon of iodized salt.

Sea salt, kosher salt, salty seasonings (e.g. tamari sauce) and processed food are generally not iodized. However, some processed food may be high in iodine because of the addition of iodine or other iodine-rich additives (calcium iodate, potassium iodate, etc.).⁹ Iodine intake from sea vegetables, such as seaweed (kelp, nori, kombu, and wakame), should be monitored because the iodine content of sea vegetables varies widely and some contain substantial amounts of iodine.¹⁰ It is important to read labels for iodine content.

Q: Should I take a multivitamin?

A: Combining the gluten-free diet and the vegetarian diet can be done in a healthy way; however, it is important to pay special attention to specific nutrients that may be lacking. To be sure you meet all your nutrition goals, talk to your dietitian or healthcare provider. Depending on your diet and bloodwork, you may benefit from taking a standard gluten-free vitamin and mineral supplement. A standard supplement includes 100% of the daily value (DV) for vitamin B-12 and the other B vitamins, vitamin D, folic acid, and zinc. Avoid large doses of any vitamin without talking to your healthcare team first. Your healthcare provider should monitor intake, supplement use, and your bloodwork to guide you. Nutritional supplements are regulated by the Food and Drug Administration and fall under the Food Allergen Labeling and Consumer Protection Act. Patients should only purchase multivitamins and other supplements that are labeled gluten-free.⁷

Q: What about veggie burgers and other meat substitutes?¹¹

A: While some veggie burgers and other meat substitutes are gluten-free, it is critical to check the label as many contain wheat protein or soy sauce. Texturized Vegetable Protein (TVP) that is flavored almost always contains gluten. Instead, choose 100% soy protein that is plain, unflavored and labeled gluten-free.

Choose tofu that is plain and packed in water, and avoid tofu that is seasoned or marinated with soy sauce. Choose tempeh that is plain, and made with soybeans, rice, and tempeh culture. Avoid tempeh that is made with wheat or barley, and flavored tempeh products marinated in soy sauce. While it is rare, some plant-based beverages contain wheat or barley, so check the label. Seitan is a popular choice with many vegetarians, but it is **not** gluten-free and should be avoided. Avoid miso (paste made from fermented beans and grains) if it is made with wheat, barley, or rye. Miso made from rice, soy, millet, amaranth, quinoa, or buckwheat is safe if labeled gluten-free.

Q: I like to snack. What are some suggestions for gluten-free snacks that are also vegetarian or lacto-vegetarian?*

A: Here are some ideas to get you started.*

- Carrots or baby bok choy with roasted eggplant dip
- Banana sushi: spread your favorite nut butter or gluten-free chocolate spread on a banana; sprinkle w/ coconut, chia seeds, or chopped nuts
- Bean dip or hummus with fresh veggies or high-fiber gluten-free crackers
- Energy bites: mix peanut butter, nuts, dark chocolate chips, unsweetened coconut, chia seeds or ground flax seeds; roll into balls and refrigerate
- GF rice cake with nut or seed butter, labeled gluten-free chia seeds, fruit
- Plain air-popped popcorn or popped sorghum w/ olive oil, herbs and spices
- Smoothie: protein-rich non-dairy beverage, kale or spinach, hemp or chia seeds, fruit, ice
- Homemade roasted chickpeas and kale chips
- Gluten-free protein bars (high protein, low sugar, labeled gluten-free)
- Yogurt with fruit and a sprinkle of gluten-free granola (can be made dairy-free)
- Low-fat cottage cheese with carrot and celery sticks (lacto-vegetarian)

See other ideas for how you can build a gluten-free snack [here](#).

***All grains, flours, cereals, nuts, seeds and non-dairy beverages should be labeled gluten-free.**

*** As a general reminder, under US GIPSA standards (Grain Inspection, Packers & Stockyards Administration), lentils are allowed to contain a certain percentage of foreign grain, including wheat, barley, and rye. Sort through dry lentils carefully and rinse very thoroughly under running water. Thoroughly rinse all canned lentils. Some canned lentils are labeled gluten-free.¹²**

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Revision date: November 2025

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