

Vegetarian Meal Planning

A vegetarian diet limits or avoids animal foods. Most vegetarians eat plant-based proteins instead of proteins that come from animals. Plant-based diets have been linked to better health when foods are chosen with care. The key to a healthy vegetarian diet is eating a variety of foods each day. Strict vegetarian diets need careful planning to provide enough nutrients. There are many types of diets for people who want to eat less meat.

Types of Vegetarian Diets

Type	Foods Included	Foods Excluded	Limited Nutrients
Semi-Vegetarian or Partial Vegetarian (non-red meat eater)	plant products dairy fish poultry eggs	all other animal products	none if diet is adequate and balanced
Pesco-vegetarian	plant products dairy fish eggs	all other animal products	none if diet is adequate and balanced
Lacto-ovo-vegetarian	plant products dairy eggs	all other animal products	iron zinc
Lacto-vegetarian	plant products dairy	all other animal products	iron zinc
Ovo-vegetarian	plant products eggs	all other animal products	calcium iron vitamin D zinc
Vegan (“vee-gan”)	plant products	all animal products	calcium iron vitamin D vitamin B12 zinc

Food Guide for Vegetarian Meal Planning

Grains, Potatoes, Starchy Vegetables: (6 or more servings per day)	Serving size: <ul style="list-style-type: none"> • 1 slice bread, whole wheat • ½ cup corn, peas, beans • ½ cup cooked pasta, whole grain • 1 cup winter squash • 1 dinner roll • ¾ cup cold cereal, whole grain • 1 oz bag pretzels • ½ English muffin, whole wheat • 6-8 crackers, whole grain • 6-inch tortilla, corn or whole wheat • 1/3 cup cooked rice, brown or wild • ½ cup cooked oatmeal/hot cereal • 3 graham crackers • ½ hotdog or small hamburger bun, whole grain • ½ small bagel, whole grain • 5-inch pancake/waffle, whole wheat • ½ whole wheat pita
Fruits: 2-4 servings per day	Serving size: <ul style="list-style-type: none"> • ½ cup juice • ½ cup canned fruit • 2-2 ½" piece of fruit • 2 T dried fruit • 1 cup berries/melon • ½ banana • 2 T raisins • 10-15 grapes
Vegetables: 4-6 servings per day	Serving size: <ul style="list-style-type: none"> • ½ cup cooked or 1 cup leafy greens • ½ cup vegetable juice • 1 cup raw vegetables
Proteins: (dry beans, nuts, seeds, eggs and meat substitutes) 6-8 ounces per day	Equal to 1 ounce of protein: <ul style="list-style-type: none"> • ½ cup beans • ¼ cup nuts or seeds • ½ cup tofu • 2 T peanut butter • 1 egg/2 egg whites • ½ veggie burger • ¼ cup cottage cheese • 1 ounce or ¼ cup meat substitute <p>(If you do not eat any animal products you must find a vitamin B-12 food or supplement source daily)</p>
Dairy: (milk, cheese and yogurt) 0-3 servings per day	Serving size: <ul style="list-style-type: none"> • 1 cup milk (cow or soy) • 1 cup "high protein" almond milk • 1 cup yogurt • 1-ounce low fat cheese <p>(If you do not consume milk, cheese, or yogurt you must find other sources of calcium)</p>
Fats and Oils: 3-5 servings per day ♥ = heart healthy fats	Serving size: <ul style="list-style-type: none"> • 1 tsp olive, canola or peanut oil♥ • 1 tsp tub margarine, butter or mayonnaise • 1 T salad dressing • 1 T light tub margarine • 5-10 olives♥ • 2 T light salad dressing • 1 T cream cheese/light mayo • 6-10 nuts♥ • 1 T sunflower seeds♥ • ¼ avocado♥

Important Nutrients for the Vegetarian Diet

Protein

The daily need for protein is your body weight _____ x 0.36 = _____ grams

A well-planned vegetarian diet can meet protein needs. The body needs complete proteins to build and maintain body tissues. A complete protein contains all the needed protein building blocks called amino acids. Animal proteins are complete proteins. Plant-based proteins are not complete. Two different plant-based proteins eaten together are called complementary proteins. You do not need to combine complementary proteins at each meal.

Animal Sources of Protein

- 1 cup milk (cow or soy) 8 g
- 2 eggs 14 g
- ½ cup cottage cheese 15 g
- 1-ounce cheese 7 g

Plant Sources of Protein

- 1/3 cup hummus 7 g
- ½ cup legumes (beans) 8 g
- ¼ cup nuts or seeds 6-10 g
- 2 Tbsp. nut butter 5-8 g
- 1-ounce seitan 6 g
- 1 patty (2.5 oz) soy burger 13-15 g
- ¼ cup (4 oz) tofu 20 g

Calcium

The body needs calcium daily for strong bones and teeth, muscle and nerve function. Milk and other dairy foods are the best sources of calcium. Almonds, filberts, legumes and dark green vegetables such as kale, spinach and parsley contain some calcium. Oxalates in those foods bind calcium so it is not well-absorbed.

Calcium fortified milks are good to add to a vegan diet. While some whole grain cereals may have calcium added, they also contain phytic acid (in the outer husks of cereal grains), which can block the calcium from being absorbed.

Pregnant or breastfeeding vegetarian women, infants and children may need a calcium supplement if foods sources or appetites are low.

Recommended Calcium

Age	Daily Needs (DRI)
Children age 9-18	1300 mg
Adults age 19-50	1000 mg
Women Age 51+	1200 mg
Men Age 70+	1200 mg
Women pregnant & lactating	1000 mg (1300 mg if age 14-18)

Foods with 300 mg of Calcium

- Broccoli-chopped, 2 cups
- Calcium-fortified juices, 1 cup (8 oz)
- Calcium-treated tofu, 1 cup (8 oz)
- Calcium-fortified soymilk, 1 cup (8 oz)
- Yogurt, 1 cup
- Almonds, whole, 1 cup
- Cheese, natural cheddar-type, 1 ½ oz
- Cottage cheese, 2 cups
- Milk and buttermilk, 1 cup (8 oz)
- Salmon, 4 oz
- Sardines, 4 oz
- Spinach, boiled, 1 cup

Vitamin D

The daily need for Vitamin D is 600-800 IU (international units). You need vitamin D to help absorb calcium. Cow's milk and some soymilk products are vitamin D fortified. Our bodies also make some vitamin D when our skin is exposed to the sun. Those who do not get enough sunlight, who avoid milk products, and anyone with low blood levels may need a vitamin D supplement.

Good Sources of Vitamin D

- Egg yolk, 1 25 IU
- Fish liver oils, 1 tsp 360 IU
- Herring, 1 oz 255 IU
- Milk Products, 1 cup 100 IU (vitamin D-fortified)
- Salmon, 4 oz 500 IU
- Sardines, 4 oz 350 IU
- Soymilk, 1 cup (8 oz) 100 IU (vitamin D-fortified)

Iron

Meats are the best source of iron in the diet. Iron helps form hemoglobin (in red blood cells), myoglobin (in muscle) and important enzymes. Iron from meat, poultry and fish is well absorbed by your body. Iron from plant sources is not absorbed as well.

Eat high vitamin C foods with iron-rich foods to help the body use the iron from plants. Cook food in cast iron pots or pans to add iron to the diet. Pregnant and breastfeeding women, children and young adults may need iron supplements. Be careful taking these supplements. Taking too much iron and zinc can cause physical problems.

Age	Daily Needs (DRI)
Children age 9-13	8 mg
Adolescent Girls age 14-18	15 mg
Adolescent Boys Age 14-18	11 mg
Menstruating Women	18 mg
All Others	8 mg

Good Sources of Iron

- Dried fruits, $\frac{1}{4}$ cup 2 mg
- Leafy vegetables, 1 cup 1.5 mg
- Legumes, 1 cup 2 mg
- Molasses-blackstrap, 1 Tbsp 5 mg
- Potato, with skin, 1 2.8 mg
- Soybean nuts, $\frac{1}{3}$ cup 2.3 mg
- Wheat germ, $\frac{1}{4}$ cup 2.5 mg
- Almonds, $\frac{1}{2}$ cup 3 mg

Good Sources of Vitamin C

- Broccoli
- Cantaloupe
- Cauliflower
- Chili peppers
- Kiwi
- Lemons, limes and juice
- Oranges and juice
- Potatoes
- Spinach and other greens
- Strawberries
- Sweet peppers
- Tomatoes

Zinc

Meats are the best source of the zinc. Zinc is needed in many body functions and is used for growth and healing. Include good sources of zinc at every meal.

Age	Daily Needs (DRI)
Children age 9-13	8 mg
Girls age 14-18	9 mg
Women Age 19+	8 mg
Boys/Men Age 14+	11 mg
Pregnant/Lactating Women	11 – 13 mg

Good Sources of Zinc

- Brown rice, 1 cup 1.3 mg
- Milk, 1 cup 1 mg
- Legumes, ½ cup 1 mg
- Oysters, 6 75 mg
- Peanuts, ¼ cup 1.5 mg
- Pecans, ¼ cup 1.5 mg
- Ricotta cheese, ½ cup 1.7 mg
- Tuna fish, 3 oz 1 mg
- Wheat germ, ¼ cup 4.7 mg

Vitamin B12

Vitamin B12 is found only in animal products. A vegetarian diet that includes milk products or eggs will supply enough B12. Those who follow a vegan diet will need to take a B12 supplement or eat foods with added B12 daily.

The results of a B12 deficiency are very serious, although it may take months or years for a deficiency to show up. Fermented soybean products (miso and tempeh) and spirulina (blue-green algae) are **not** good sources of vitamin B12.

Age	Daily Needs (DRI)
Children age 9-13	1.8 mcg
Girls age 14-18	2.4 mcg
Women Age 19+	2.4 mcg
Boys/Men Age 14+	2.4 mcg
Pregnant/Lactating Women	2.6-2.8 mcg

Good Sources of Vitamin B12

- Eggs, 1 large 0.7 mcg
- Cereal, Total, whole grain, $\frac{3}{4}$ cup 6 mcg
- Cereal, Chex, 1 cup 1.5 mcg
- Cereal, Bran Flakes, $\frac{3}{4}$ cup 1.5 mcg
- Milk, 8 oz 0.8 -1.2 mcg
- Cheese, oz 0.2 mcg
- Yogurt, 8 oz 0.2 mcg (average)

Vegetarian Recipes and Resources

- How to Cook Everything Vegetarian: Simple Meatless Recipes for Great Food by Mark Bittman and Alan Witschonke, 2007
- The Complete Idiot's Guide to Vegan Living by Beverly Lynn Bennett and Ray Sammartano, 2005
- Vegetarian Times Complete Cookbook by Vegetarian Times Magazine, 2005
- Vegetarian Cooking for Everyone by Deborah Madison, 2007
- Vegetarian Suppers from Deborah Madison's Kitchen by Deborah Madison, 2007
- Student's Vegetarian Cookbook, Revised: Quick, Easy, Cheap, and Tasty Vegetarian Recipes by Carole Raymond, 2003
- Simply Vegan: Quick Vegetarian Meals by Debra Wasserman, 2006.
- Quick-Fix Vegetarian: Healthy Home-Cooked Meals in 30 Minutes or Less by Robin Robertson, 2007
- The New Becoming Vegetarian: The Essential Guide To A Healthy Vegetarian Diet by Vesanto Melina and Brenda Davis, 2003
- The New Moosewood Cookbook by Mollie Katzen, 2000

Web Resources

<http://www.vrg.org/index.htm>

<http://allrecipes.com/Recipes/Everyday-Cooking/Vegetarian/Main.aspx>

<https://www.nal.usda.gov/fnic/vegetarian-nutrition>

<http://www.vegetariantimes.com>

Teach Back

What is the most important thing you learned from this handout?

What changes will you make in your diet/lifestyle, based on what you learned today?

If you are a UW Health patient and have more questions, please call UW Health at one of the phone numbers below. You can also visit our website at www.uwhealth.org/nutrition.

Nutrition clinics for UW Hospital and Clinics (UWHC) and American Family Children's Hospital (AFCH) can be reached at **(608) 890-5500**

Nutrition clinics for UW Medical Foundation (UWMF) can be reached at **(608) 287-2770**

If you are a patient receiving care at UnityPoint – Meriter, Swedish American or a health system outside of UW Health, please use the phone numbers provided in your discharge instructions for any questions or concerns.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright 7/2019 University of Wisconsin Hospital and Clinics Authority. All rights reserved. Produced by the Department of Nursing HF#346.