



The Vegetarian Diet

This information sheet explains:

- Types of vegetarian diets
- Benefits of a vegetarian diet
- Vegetarianism throughout the life cycle
- Special considerations
- Sample diet

Types of vegetarian diets

A vegetarian diet is defined as one that does not include meat, fish or fowl. However, eating patterns may vary. Below are common types of vegetarian diets:

- Lacto-ovo-vegetarian diet: Emphasizes grains, vegetables, fruits, legumes, seeds, nuts, eggs, and dairy products but excludes meat, fish and fowl.
- Lacto-vegetarian diet: Excludes eggs as well as meat, fish and fowl.
- Vegan diet: Excludes all animal products.

Benefits of a vegetarian diet

A well-planned vegetarian diet can offer a number of nutritional benefits including lower levels of saturated fat, cholesterol and animal protein as well as higher levels of complex carbohydrates, fiber, magnesium, potassium, folate, antioxidants and phytochemicals. However, special care needs to be taken in children and adolescents when choosing a vegetarian diet to consume adequate calcium, iron, zinc, vitamin B-12, vitamin D and occasionally riboflavin (vegan diet only).

Vegetarian diets have been shown to lower blood cholesterol levels and blood pressure, decrease the risk of developing heart disease, type 2 diabetes and certain types of cancer. For this reason, the American Cancer Society and American Heart Association encourage choosing a plant-based diet.

Vegetarian adolescents have been reported to consume more fruits and vegetables, and fewer sweets, fast foods, and salty snacks compared with non-vegetarians. Vegetarian children have also been reported to be leaner.

Vegetarianism throughout the life cycle

Well-planned vegan and vegetarian diets are appropriate for all stages of the life cycle, including infancy, childhood and adolescence. An appropriate vegetarian diet can meet all nutrient needs and promote normal growth and development in children and adolescents.

Breast-fed infants whose mothers do not consume dairy products, foods fortified with vitamin B12, or B12 supplements will need B12 supplementation. Soy formula is the only option for vegan infants who are not breastfed. Soy, rice, nut, or grain-based milks are not appropriate for infants.



The introduction of solid foods is the same for vegetarian and non-vegetarian infants. When it is time to introduce protein foods, vegetarian infants can have mashed or pureed tofu or legumes, soy or

dairy yogurt, egg yolks and cottage cheese. Later, cubed tofu, cheese or soy cheese and bite sized pieces of veggie burger may be offered.

Daily food guides for vegetarian children and adolescents

	1 – 4 years	4 – 8 years	9 – 13 years	14 – 18 years
Grains	4 servings	6 servings	7 servings	10 servings
Legumes, nuts, and other protein rich foods	4 servings	5 servings	6 servings	6 servings
Vegetables	1–1/2 servings	3 servings	3 to 4 servings	4 to 5 servings
Fruits	1 1/2 to 3 servings	2 to 3 servings	2 to 3 servings	3 to 4 servings
Fats	3 servings	4 servings	5 servings	4 to 5 servings

- 1 serving of grains is 1/2 cup cooked grain or cereal, 1 slice bread or 1 ounce ready to eat cereal
- 1 serving of protein rich foods is 1/2 cup cooked beans, 1/2 cup tofu or tempeh, 1 ounce meat analog, 2 tablespoons nut or seed butter, 1/4 cup nuts, 1 egg, 1 cup cow’s milk or fortified soy milk, 6 ounces dairy or soy yogurt or 1 ounce dairy or soy cheese
- 1 serving of vegetables is 1 cup of raw vegetables, 1/2 cup cooked vegetables or 1/2 cup vegetable juice
- 1 serving of fruit is 1 piece of medium fruit, 1/2 cup cooked or cut up fruit, 1/2 cup of fruit juice or 1/4 cup dried fruit
- 1 serving of fat is 1 teaspoon of oil, mayonnaise or margarine

Special considerations

Energy: Young children may have problems consuming adequate energy on vegetarian diets that are very high in fiber. The judicious use of fats such as avocado, nuts, nut butters, seeds and seed butters can provide a concentrated source of energy for these children. Dried fruits are another concentrated energy source. In addition, fiber content can be reduced in a vegetarian child’s diet

by offering some refined grain products, fruit juices, and peeled fruits and vegetables.

Protein: Protein needs can be met when a variety of plant foods are consumed and energy requirements are met. Protein combining is not necessary if a variety of protein sources are consumed throughout the day.

Calcium: Children ages 4-8 need at least 6 servings of calcium rich foods per day. Children and adolescents ages 9-18 need at least 10 servings per day. Calcium rich foods include: 1 ounce fortified breakfast cereal; 1/2 cup cow's milk or yogurt or fortified soymilk, 3/4 ounce cheese, 1/2 cup tofu or tempeh, 1/4 cup almonds, 2 Tablespoons almond butter or tahini paste, 1/2 cup cooked soybeans, 1/4 cup soynuts; 1 cup cooked broccoli, bok choy, collards, Chinese cabbage, kale, mustard greens or okra; 1/2 cup fortified tomato or fruit juice, 5 figs, or 1 tablespoon blackstrap molasses.

A serving of calcium rich food may count towards a serving from another food group. For example, 1 cup fortified soymilk would count as 2 servings of calcium rich foods and 1 serving of a protein rich food.

Iron: Good iron sources for vegetarian children include whole grain breads and cereals, legumes, green leafy vegetables, dried fruits and blackstrap molasses. Vitamin C can enhance iron absorption in a plant-based diet. Good sources of Vitamin C include: leafy green vegetables such as greens, broccoli, and brussel sprouts, citrus fruits, potatoes, strawberries, green peppers, tomatoes, cantaloupe and berries.

Zinc: The bioavailability of zinc is decreased by phytate, which is found in whole grain foods and legumes. Vegetarians whose diets are rich in phytates may have zinc requirements that exceed the Recommended Dietary Allowance (RDA). Good sources for zinc in a vegetarian diet include soyfoods, legumes, nuts and seeds, whole grain foods, wheat germ and dairy products.

Vitamin B-12: Children and adolescents ages 4 to 13 need at least 2 good food sources of vitamin B-12 in their diet every day. Adolescents ages 14 to 18 need at least 3 good food sources. Good food sources include: 1 tablespoon Red Star Vegetarian Support Formula nutritional yeast, 1 cup fortified soy milk, 1/2 cup cow's milk, 3/4 cup yogurt, 1 large egg, 1 ounce fortified breakfast cereal or 1 1/2 ounce fortified meat analog. If you don't eat these foods on a regular basis, consider taking a daily vitamin B-12 supplement.

Vitamin D: Be sure to get adequate Vitamin D from exposure to sunlight or through fortified foods or supplements. Look for cow's milk, soymilk and breakfast cereals that have been fortified with vitamin D.

Riboflavin: Good food sources of riboflavin include asparagus, bananas, beans, broccoli, figs, kale, lentils, peas, seeds, sesame tahini, sweet potatoes, tofu, tempeh, wheat germ and enriched bread.

Omega 3 fats: For the best balance of fats in your diet, include foods every day that are a source of omega 3 fats. Food rich in omega 3 fats include 1 teaspoon flaxseed oil, 3 teaspoons of canola or soybean oil, 1 tablespoon ground flaxseed or 1/4 cup walnuts.

Sample Menu – Lacto-Ovo Vegetarian

<p>Breakfast: 2 slices whole grain toast with 2 tablespoons peanut butter and banana slices 1 cup skim milk</p>	<p>Lunch: Veggie dog on bun with mustard 1 medium apple 8 baby carrots 6 ounces low-fat yogurt Bottled water</p> <p>Snack: 1 tangerine 6 cups light popcorn</p>	<p>Dinner: 1 cup vegetable lasagna 3/4 cup green beans with 1/4 cup roasted walnuts 1 small whole grain roll 1 cup skim milk</p>
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Sample Menu – Vegan Vegetarian

<p>Breakfast: 1 ounce dry cereal with 2 Tablespoons wheat germ and 1/2 cup soy milk 1 slice whole grain toast with 1 teaspoon soy margarine 6 ounces orange juice</p>	<p>Lunch: Almond butter sandwich on whole grain bread 1 medium apple 8 baby carrots 1 cup soy milk</p>	<p>Dinner: 1 cup pasta with 1/2 cup tomato sauce and 3 ounces diced tofu 1/2 cup steamed broccoli with 1 teaspoon olive oil and lemon juice 1 small whole grain roll with 2 teaspoons olive oil 1 cup soy milk</p>
	<p>Snack: Strawberry and banana smoothie (1 cup soymilk 1/2 cup frozen strawberries 1/2 medium banana 1 tablespoon ground flaxseed)</p>	

** Sample diets designed to meet the needs of a 7 to 10 year old child. Servings can be increased or decreased to meet specific energy needs.*

*Developed by the Department of Food and Nutrition Services;
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Texas Children's Hospital

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