

# Types of Vegetarians

**Lacto-ovo:** Includes dairy products and eggs. Excludes meat, poultry, and fish.

**Lacto:** Includes dairy products. Excludes eggs, foods containing eggs, meat, poultry, and fish.

**Vegan/Plant-based:** Includes only foods from plant sources, such as fruits, vegetables, beans, grains, seeds, and nuts. Excludes dairy products, eggs, meat, poultry, fish, and all foods containing these items.

Lacto-ovo, lacto, and vegan vegetarian diets can support healthy growth and development.



## Calorie Needs and Growth:

All children need more calories during times of rapid growth or increased physical activity. Vegetarian diets are often high in fiber and low in fat. This may cause children to feel full before they consume enough calories. Watch for sudden changes in your child's growth and activity level. Include foods rich in nutrients and calories. Nutritious snacks

can help to ensure proper calorie intake.

**Changing to a Vegetarian Diet:** Some children are vegetarian from birth, but many families change later in life. There are many ways to help children make this transition. Explain why the family has chosen a vegetarian diet. Introduce new foods gradually. Make familiar foods available. Try making meat-free versions of favorite family meals.

**A Healthy Diet for Life:** A vegetarian diet can help form healthy eating habits for life. Include whole-grains, fruits, and vegetables often. Limit foods high in saturated fat, sugar, and salt. Vegetarian children have a high intake of many essential vitamins and minerals



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Eating habits are set in early childhood. Choosing a vegetarian diet can give your child - and your whole family - the opportunity to learn to enjoy a variety of wonderful, nutritious foods. Children raised on fruits, vegetables, whole grains, and legumes grow up to be slimmer and healthier and even live longer than their meat-eating friends. It is much easier to build a nutritious diet from plant foods than from animal products, which contain saturated fat, cholesterol, and other substances that growing children can do without. As for essential nutrients, plant foods are the preferred source because they provide sufficient energy and protein packaged with other health-promoting nutrients such as fiber, antioxidant vitamins, minerals, and phytochemicals.

## Complete Nutrition for Children

Vegetarian diets provide excellent nutrition for all stages of childhood, from birth through adolescence. Of course, an infant's nutritional needs are best met by his or her mother's breast milk. It's nature's way of boosting the baby's immunity as well as his or her psychological well-being.

Doctors recommend introducing solid foods in the middle of the first year of life. The best weaning foods are soft plant foods such as ground, cooked cereals, mashed fruits, and well-cooked vegetables. Given a chance, toddlers and young children usually enjoy a wide variety fruits, vegetables, grains, and legumes—even more so if they are involved in the preparation. School-aged children are often curious about where their food comes from and delight in learning how to cook, visiting farmers' markets, and gardening. Adolescents raised on a vegetarian diet often find they have an easy time maintaining a healthy weight and have fewer problems with acne, allergies, and gastrointestinal problems than their meat-eating peers.

Some studies suggest that the growth of vegetarian children is more gradual than that of non-vegetarians—in other words, vegetarian children grow a bit more slowly at first, but they catch up later on. Final heights and weights for vegetarian children are comparable to those of meat-eating children. Interestingly, breast-fed babies also grow more slowly than bottle-fed babies. Somewhat less rapid growth during the early years is thought to decrease disease risk later in life.

On the other hand, diets rich in animal protein, found in meat, eggs, and dairy products, appear to reduce the age of puberty, as shown in a 2000 study from the Harvard School of Public Health, which found that girls who consumed higher levels of animal protein compared to vegetable protein between 3 and 8 years of age went through menarche earlier. Nature may well have designed the human body to grow up more gradually, to reach

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puberty later, and to last longer than most people raised on omnivorous diets experience.

In a 1980 study, researchers measured the IQs of vegetarian children. Some of the children were following a macrobiotic diet, a few were Seventh-day Adventists (many of whom follow a plant-based diet), and the rest were from families that had simply decided to go vegetarian. On intelligence testing, the kids were considerably above average, with a mean IQ of 116. Now, the diet may have had nothing to do with their intelligence. Rather, these vegetarian families were better educated than the average meat-eating family, and it is probably the parental education, rather than a dietary effect, that was reflected in their children's measured intelligence. However, this study should reassure vegetarian parents who wonder whether animal products contain something necessary for brain development. Clearly, they do not.

## Nutrient Needs

The complex carbohydrates found in whole grains, beans, and vegetables provide the ideal energy to fuel a child's busy life. Cultivating a taste for brown rice, whole wheat breads and pastas, rolled oats, and corn, as well as the less common grains barley, quinoa, millet, and others, will boost the fiber and nutrient content of a child's diet. In addition, steering children away from sweets, sugary drinks, highly processed baked products, and overly sweet cereals will help them avoid overeating and gaining unwanted weight.

Naturally, children need protein to grow, but they do not need high-protein, animal-based foods. Many people are unaware that a varied menu of grains, beans, vegetables, and fruits supplies plenty of protein. The "protein deficiencies" that our parents worried about in impoverished countries were the result of starvation or diets restricted to very few food items. Protein deficiency is extremely unlikely on a diet drawn from a variety of plant foods.

Very young children may need a slightly higher fat intake than adults do. Healthier fat sources include soybean products, avocados, and nut butters. Soy "hot dogs," peanut butter and jelly sandwiches, seasoned veggie burgers, and avocado chunks in salads, for example, are very well accepted. However, the need for fat in the diet should not be taken too far. American children often have fatty streaks in the arteries—the beginnings of heart disease—before they finish high school. In contrast, Japanese children traditionally grew up on diets much lower in fat and subsequently had fewer problems with diabetes, heart disease, obesity, and other chronic diseases.

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Parents will want to make sure their child's diet includes a regular source of vitamin B12, which is needed for healthy blood and nerve function. Deficiencies are rare, but when they happen, they can be a bit hard to detect. Vitamin B12 is plentiful in many commercial cereals, fortified soy and rice milks, and nutritional yeast. Check the labels for the words cyanocobalamin or B12. Children who do not eat these supplemented products should take a B12 supplement of 3 or more micrograms per day. Common children's vitamins contain more than enough B12. Spirulina and seaweed are not reliable sources of vitamin B12.

The body also requires vitamin D, which children and parents are happy to know can be obtained by simply playing outdoors in the sun. Fifteen to twenty minutes of daily sunlight on the hands and face is enough sun exposure for the body's skin cells to produce the necessary vitamin D. Children in latitudes with diminished sunlight may need the vitamin D found in multivitamin supplements or fortified non-dairy milks.

For calcium, beans, dried figs, sweet potatoes, and green vegetables, including collards, kale, broccoli, mustard greens, and Swiss chard, are excellent sources. Fortified soymilk and rice milk and calcium-fortified juices provide a great deal of calcium as well. In addition, eating lots of fruits and vegetables, excluding animal proteins, and limiting salt intake all help the body retain calcium.

Growing children also need iron found in a variety of beans and green, leafy vegetables. The vitamin C in vegetables and fruits enhances iron absorption, especially when eaten together with an iron-rich food. One example is an iron-rich bean burrito eaten with vitamin C-rich tomato salsa. Few people are aware that cow's milk is very low in iron and can induce a mild, chronic blood loss in the digestive tract, which can reduce iron and cause an increased risk of anemia.

## Infants

Again, the best food for newborns is breast milk. When breast-feeding is not possible, commercial soy formulas are nutritionally adequate. There is no need for infants to be raised on cow's milk formulas. In addition to containing colic-inducing proteins that bother many children, cow's milk is a common cause of allergies. Unfortunately, immune responses to milk proteins are implicated in insulin-dependent diabetes and even in Sudden Infant Death Syndrome. Soy formulas are commonly used in all hospital nurseries, although they can occasionally be allergenic as well. Soymilk sold in grocery stores for

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adults is not the same as soy baby formula, however, and is not adequate for infants.

Infants do not need any nourishment other than breast milk or soy formula for the first half year of life, and they should continue to receive breast milk or formula at least throughout their first 12 months. Breast-fed infants also need about two hours a week of sun exposure to make vitamin D—a great motivator for Mom to get back into a walking routine. Some infants, especially those who are dark-skinned or who live in cloudy climates, may not make adequate amounts of vitamin D. In these cases, vitamin D supplements may be necessary.

At about 5 to 6 months of age, or when baby's weight has doubled, other foods can be added to the diet. Pediatricians often recommend starting with an iron-fortified cereal because, at about 4 to 6 months, infants' iron stores, which are naturally high at birth, begin to decrease. Add one simple new food at a time, at one- to two-week intervals.

The following guidelines provide a flexible plan for adding foods to your baby's diet:

### **5 to 6 Months:**

- Introduce iron-fortified infant cereal. Try rice cereal first, mixed with a little breast milk or soy formula, since it is the least likely to cause allergies. Then, offer oat or barley cereals. Most pediatricians recommend holding off on introducing wheat until the child is at least 8 months old, as it tends to be more allergenic.

### **6 to 8 Months:**

- Introduce vegetables. Potatoes, green beans, carrots, and peas are all good choices. They should be thoroughly cooked and mashed.
- Introduce fruits. Try mashed bananas, avocados, or strained peaches, or applesauce.
- Introduce breads. By 8 months of age, most babies can eat crackers, bread, and dry cereal.
- Introduce protein-rich foods. Also by about 8 months, infants can begin to eat higher protein foods like tofu or beans that are well cooked and mashed.

### **Children and Teens:**

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Children have high calorie and nutrient needs, but their stomachs are small. Offer your child frequent snacks, and include some less “bulky” foods like refined grains and fruit juices. Do limit juices, however, since children may fill up on them, preferring their sweetness to other foods.

Teenagers often have high energy needs and busy schedules. Keeping delicious, healthy snack choices on hand and guiding teens to make lower-fat selections when eating out will help to steer them away from dining pitfalls that often cause weight gain and health problems for adolescents. Caloric needs vary from child to child. The following guidelines are general ones.

### **Whole Grains:**

- Whole grains include breads, hot and cold cereals, pasta, cooked grains (such as rice and barley), and crackers.
- One serving equals 1/2 cup of pasta, grains, or cooked cereal, 3/4 to 1 cup of ready-to-eat cereal, 1/2 bun or bagel, or 1 slice of bread.

### **Vegetables:**

- Dark green vegetables” include broccoli, kale, spinach, collard greens, turnip greens, mustard greens, beet greens or bok choy
- Other vegetables” refers to all other vegetables, fresh or frozen, raw or cooked.
- One serving of vegetables equals 1/2 cup cooked or 1 cup raw (unless an amount is specified).

### **Legumes, Nuts, Seeds, and Non-Dairy Milks:**

- Legumes include any cooked bean such as pinto, kidney, lentils, split peas, black-eyed peas, navy beans, and chickpeas, as well as soy products, such as tofu, veggie burgers, soy “hot dogs” or sandwich slices, and tempeh.
- One serving of legumes equals 1/2 cup of beans, tofu, or other item (unless an amount is specified).
- Non-dairy milks include breast milk and soy formula for infants and toddlers, and rice-, soy-, and other vegetable-based milks for children at least 1 year of age. Choose fortified soymilk, such as Westsoy Plus, Enriched VitaSoy, or Edensoy, whenever possible, or use other fortified vegetable-based milks.

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- One serving of non-dairy milk equals 1 cup.
- Nuts include whole or chopped nuts, nut butters, whole seeds, and seed butters.
- One to two servings of nuts may be included in a healthy diet, but they are optional. One serving of nuts or nut butters equals 1 tablespoon.

### **Fruits:**

- Fruits include all fruits, fresh or frozen, raw or cooked, and fruit juices.
- One serving equals 1/2 cup cooked fruit, 1/2 cup fruit juice, 1/4 cup dried fruit, or 1 piece of fruit (unless an amount is specified.)

## **Daily Meal Planning for Children and Teens**

### **1- to 4-Year-Olds**

Whole Grains, Breads, Cereals: 4 servings

Vegetables: 2-4 tablespoons dark green vegetables , 1/4 to 1/2 cup other vegetables

Legumes, Nuts, Seeds, Non-Dairy Milks: 1/4 to 1/2 cup legumes, 3 servings breast milk, soy formula, soy milk, or other non-dairy milk

Fruits: 3/4 to 1 1/2 cups

### **5- to 6-Year-Olds**

Whole Grains, Breads, Cereals: 6 servings

Vegetables: 1/4 cup dark green vegetables , 1/4 to 1/2 cup other vegetables

Legumes, Nuts, Seeds, Non-Dairy Milks: 1/2 to 1 cup legumes , 3 servings soymilk or other non-dairy milk

Fruits: 1 to 2 cups

### **7- to 12-Year-Olds**

Whole Grains, Breads, Cereals: 7 servings

Vegetables: 1 serving dark green vegetables , 3 servings other vegetables

Legumes, Nuts, Seeds, Non-Dairy Milks: 2 servings legumes , 3 servings soymilk or other non-dairy milk

Fruits: 3 servings

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### **13- to 19-Year-Olds**

Whole Grains, Breads, Cereals: 10 servings

Vegetables: 1-2 servings dark green vegetables , 3 servings other vegetables

Legumes, Nuts, Seeds, Non-Dairy Milks: 3 servings legumes , 2-3 servings  
soymilk or other non-dairy milk

Fruits: 4 servings

Be sure to include a source of vitamin B12, such as any typical children's  
multivitamin or vitamin-fortified cereals

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