

## Dietary Reference Intakes (DRI)

The Dietary Reference Intakes (DRI) include two sets of values that serve as goals for nutrient intake—Recommended Dietary Allowances (RDA) and Adequate Intakes (AI). The RDA reflect the average daily amount of a nutrient considered adequate to meet the needs of most healthy people. If there is insufficient evidence to determine an RDA, an AI is set. AI are more tentative than RDA, but both may be used as goals for nutrient intakes.

In addition to the values that serve as goals for nutrient intakes (presented in the tables on these two pages), the DRI include a set of values called Tolerable Upper Intake Levels (UL). The UL represent the maximum amount of a nutrient that appears safe for most healthy people to consume on a regular basis. Turn the page for a listing of the UL for selected vitamins and minerals.

Estimated Energy Requirements (EER), Recommended Dietary Allowances (RDA), and Adequate Intakes (AI) for Water, Energy, and the Energy Nutrients

Age(yr)	Reference BMI (kg/m <sup>2</sup> )	Reference height, cm (in)	Reference weight, kg (lb)	Water <sup>a</sup> AI (L/day)	Energy EER <sup>b</sup> (kcal/day)	Carbohydrate RDA (g/day)	Total fiber AI (g/day)	Total fat AI (g/day)	Linoleic acid AI (g/day)	Linolenic acid <sup>c</sup> AI (g/day)	Protein RDA (g/day) <sup>d</sup>	Protein RDA (g/kg/day)
<b>Males</b>												
0-0.5	—	62 (24)	6 (13)	0.7 <sup>e</sup>	570	60	—	31	4.4	0.5	9.1	1.52
0.5-1	—	71 (28)	9 (20)	0.8 <sup>f</sup>	743	95	—	30	4.6	0.5	13.5	1.5
1-3 <sup>g</sup>	—	86 (34)	12 (27)	1.3	1046	130	19	—	7	0.7	13	1.1
4-8 <sup>g</sup>	15.3	115 (45)	20 (44)	1.7	1742	130	25	—	10	0.9	19	0.95
9-13	17.2	144 (57)	36 (79)	2.4	2279	130	31	—	12	1.2	34	0.95
14-18	20.5	174 (68)	61 (134)	3.3	3152 <sup>h</sup>	130	38	—	16	1.6	52	0.85
19-30	22.5	177 (70)	70 (154)	3.7	3067 <sup>h</sup>	130	38	—	17	1.6	56	0.8
31-50				3.7	3067 <sup>h</sup>	130	38	—	17	1.6	56	0.8
>50				3.7	3067 <sup>h</sup>	130	30	—	14	1.6	56	0.8
<b>Females</b>												
0-0.5	—	62 (24)	6 (13)	0.7 <sup>e</sup>	520	60	—	31	4.4	0.5	9.1	1.52
0.5-1	—	71 (28)	9 (20)	0.8 <sup>f</sup>	676	95	—	30	4.6	0.5	13.5	1.5
1-3 <sup>g</sup>	—	86 (34)	12 (27)	1.3	992	130	19	—	7	0.7	13	1.1
4-8 <sup>g</sup>	15.3	115 (45)	20 (44)	1.7	1642	130	25	—	10	0.9	19	0.95
9-13	17.4	144 (57)	37 (81)	2.1	2071	130	26	—	10	1.0	34	0.95
14-18	20.4	163 (64)	54 (119)	2.3	2368	130	26	—	11	1.1	46	0.85
19-30	21.5	163 (64)	57 (126)	2.7	2403 <sup>i</sup>	130	25	—	12	1.1	46	0.8
31-50				2.7	2403 <sup>i</sup>	130	21	—	12	1.1	46	0.8
>50				2.7	2403 <sup>i</sup>	130	21	—	11	1.1	46	0.8
<b>Pregnancy</b>												
<i>1st trimester</i>				3.0	+0	175	28	—	13	1.4	+25	1.1
<i>2nd trimester</i>				3.0	+340	175	28	—	13	1.4	+25	1.1
<i>3rd trimester</i>				3.0	+452	175	28	—	13	1.4	+25	1.1
<b>Lactation</b>												
<i>1st 6 months</i>				3.8	+330	210	29	—	13	1.3	+25	1.1
<i>2nd 6 months</i>				3.8	+400	210	29	—	13	1.3	+25	1.1

NOTE: For all nutrients, values for infants are AI. Dashes indicate that values have not been determined.

<sup>a</sup>The water AI includes drinking water, water in beverages, and water in foods; in general, drinking water and other beverages contribute about 70 to 80 percent, and foods, the remainder. Conversion factors: 1 L = 33.8 fluid oz; 1 L = 1.06 qt; 1 cup = 8 fluid oz.

<sup>b</sup>The Estimated Energy Requirement (EER) represents the average dietary energy intake that will maintain energy balance in a healthy person of a given gender, age, weight, height, and physical activity level. The values listed are based on an "active" person at the reference height and weight and at the midpoint ages for each group until age 19.

<sup>c</sup>The linolenic acid referred to in this table and text is the omega-3 fatty acid known as alpha-linolenic acid.

<sup>d</sup>The values listed are based on reference body weights.

<sup>e</sup>Assumed to be from human milk.

<sup>f</sup>Assumed to be from human milk and complementary foods and beverages. This includes approximately 0.6 L (~3 cups) as total fluid including formula, juices, and drinking water.

<sup>g</sup>For energy, the age groups for young children are 1-2 years and 3-8 years.

<sup>h</sup>For males, subtract 10 kcalories per day for each year of age above 19.

<sup>i</sup>For females, subtract 7 kcalories per day for each year of age above 19.

SOURCE: Adapted from the *Dietary Reference Intakes* series, National Academies Press. Copyright 1997, 1998, 2000, 2001, 2002, 2004, by the National Academies of Sciences.



## RDN Resources for Consumers:

# Vegetarian Diets During Lactation

**A balanced vegetarian diet supports healthy breastfeeding.**

Breastfed children of well-nourished vegetarian mothers have normal growth and development.

## Benefits of Breastfeeding

Breast milk is the best form of nutrition for a child. It provides the nutrients a growing infant needs in the most digestible form. Breastfeeding is free, convenient and supports mother-infant bonding. The most benefits are gained when children are breastfed for at least the first 6 months after birth. Children who are breastfed build stronger immune systems and have reduced risk of obesity later in life. Also, mothers who breastfeed reduce their risk of breast cancer and type 2 diabetes.

## Calorie Needs and Weight Loss

The body uses calories when producing breast milk. This means that the mother's calorie needs are increased, based on the amount of milk produced. On average, for the first 6 months of breastfeeding, women need 330 more calories each day than they did before they were pregnant. During the second 6 months of breastfeeding, they need 400 calories a day more than their pre-pregnancy needs. These increased calories still allow for gradual weight loss. To meet higher calorie needs, consume plenty of dried beans, whole-grains, fruits, vegetables, nuts, and seeds and optionally, dairy products and eggs.

## Tandem Nursing

When a woman nurses two children of different ages it is called "tandem nursing." Producing milk for two children requires more calories and nutrients than needed to feed one. Foods high in nutrients and calories are a great way to support tandem nursing. Remaining hydrated, by drinking extra water, is also highly recommended.

## High calorie, High nutrient foods

- Avocado
- Nuts & nut butters
- Seeds & seed butters
- Dried fruits
- Full-fat soy products
- Bean spreads
- Whole milk



## 300-Calorie Snack Ideas

- 1 slice of whole-grain toast with 1½ tbsp. almond butter topped with a small sliced banana and sliced strawberries
- ½ cup hummus with 1 cup of raw carrots and bell peppers
- Fruit smoothie with 1 cup frozen mango, ½ cup frozen pineapple, 1 cup soymilk or cow's milk
- 1/2 cup guacamole with 1 ounce baked tortilla chips
- 1/3 cup of trail mix (nuts, seeds and dried fruits) and 6 ounces of fortified orange juice



Visit <https://www.choosemyplate.gov/moms-breastfeeding-weight-loss> for more information.

## Fluid Needs

Fluid needs increase while breastfeeding, therefore staying hydrated is key. Drink water throughout the day and while nursing. Plant milk, low-fat or fat-free cow's milk, 100% fruit juices, and soups are also good sources of fluid.



## Important Nutrients

### Protein

- Dried beans and lentils
- Soy products including tofu, soymilk, and soybeans
- Nuts & nut butters
- Eggs
- Veggie meat alternatives
- Whole-grain breads and cereals
- Low-fat and fat-free dairy products

### Omega-3 Fatty Acid-DHA

Sources include:

- Eggs from chickens fed a DHA rich diet
- Foods fortified with microalgae-derived DHA

Vegetarian & Vegan-friendly DHA supplements may be used.

### Vitamin B12

Found in prenatal supplements. Be sure to get vitamin B12 from supplements or fortified foods or dairy products every day.

Sources include:

- Fortified cereals
- Fortified soymilk and other plant milks
- Vitamin B12-fortified nutritional yeast
- Dairy products

### Calcium

Sources include:

- Fortified soymilk and other plant milks
- Dairy products
- Some dark green vegetables (e.g. broccoli, kale, turnip greens, bok choy)
- Calcium-set tofu
- Fortified orange juice
- Figs

### Vitamin D

Supplements may be needed – talk to your healthcare provider.

Sources include:

- Vitamin D-fortified cow's milk or fortified soymilk or other plant milks
- Skin exposure to sunlight

Breastfed infants should be given a 400 IU vitamin D supplement daily.



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For a sample meal planning guide and additional resources, please reference the handout titled **Meal planning guide and resources for pregnant & breastfeeding vegetarians.**



# Vegetarian Nutrition

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## RDN Resources

# Meal Planning Guide and Resources for Pregnant & Breastfeeding Vegetarians

## Meal Planning Guide for Breastfeeding Vegetarians

These guidelines are the suggested minimum number of servings for lactating women. Some women may need additional servings and/or added fats to maintain desirable body weight.

Food Group	Serving Size	# of Svgs (pregnancy)	# of Svgs. (Breastfeeding)	Comments
Grains	1 slice bread; ½ cup cooked cereal or pasta; ¾ -1 cup ready-to-eat cereal	6	6	Choose whole-grains. Brown rice, oats, whole-grain breads & pasta, millet, quinoa, bulgur, and amaranth
Vegetables	½ cup cooked vegetables; 1 cup raw vegetables; ¾ cup vegetable juice	4	4	Choose calcium-rich vegetables often: e.g. kale, broccoli, bok choy, Chinese cabbage, okra
Fruits	1 medium fruit; ½ cup canned fruit; ¼ cup dried fruit; ¾ cup fruit juice	2	2	Choose calcium-rich foods often: calcium-fortified juice, figs
Legumes, nuts, seeds, milks	½ cup cooked beans, tofu, tempeh, textured vegetable protein (TVP); 3 ounces of veggie meats (veggie burger, deli slices, etc.); 2 tbsp. nuts, seeds, nut or seed butter; 1 cup fortified soy or low-fat or fat-free cow's milk; 1 cup yogurt; 1 egg	7	7	Choose calcium-rich foods often: calcium-fortified plant milks, dairy products, calcium-set tofu, almond butter, tahini, tempeh, almonds, soybeans
Fats	1 tsp. oil, salad dressing, butter, margarine, ghee or 2 tablespoons mashed avocado	2	2	

**tip** Choose high calcium foods from each of the food groups (e.g. calcium-fortified breakfast cereals, bok choy, broccoli, collards, Chinese cabbage, kale, mustard greens, okra, calcium-fortified orange juice, dairy products, calcium-fortified soy milk, tempeh, calcium-set tofu, almonds).

## Additional Resources

1. Pregnancy and Breastfeeding. ChooseMyPlate.gov <http://www.choosemyplate.gov/moms-pregnancy-breastfeeding>. 2016.
2. Physicians Committee for Responsible Medicine (PCRM) - Vegetarian Diets for Pregnancy 2016. <http://www.pcrm.org/health/diets/vegdiets/vegetarian-diets-for-pregnancy>.
3. The Cleveland Clinic. Nutrition During Pregnancy for Vegetarians. <https://my.clevelandclinic.org/health/articles/4724-nutrition-during-pregnancy-for-vegetarians>.
4. Mangels R, Messina V, Messina M. The Dietitian's Guide to Vegetarian Diets: Issues and Applications, 3rd ed. Sudbury, MA: Jones and Bartlett Learning, 2011.
5. Mangels R. Vegetarian diets for pregnancy, lactation, infancy, and early childhood. In Craig WJ, ed. Vegetarian Nutrition and Wellness. Boca Raton, FL: CRC Press; 2018.