

# A Diet for All Ages

## Nutrition for Babies and Their Moms

by Reed Mangels, RD, PhD, FADA

Pregnancy is a time of increased nutritional needs, both to support the rapid growth of a baby and to allow for all the changes that are taking place in a pregnant woman's body. Infancy, too, is a time when good nutrition is very important to support the rapid growth and development that occurs during this time. A healthy vegetarian or vegan diet can meet the needs of both pregnant women and their infants.

### Nutrition for Pregnant Women

Adequate weight gain is important during pregnancy as it represents the growing baby, an increase in the volume of the mother's blood, uterus and breasts, and the weight of the placenta and amniotic fluid. Weight gain should be from a minimum of 15lbs for an overweight woman up to 40lbs for an underweight woman. Teens may need more to support their own needs for growth. In the second and third trimesters, a weight gain of 1-1½ lbs a week is common for all pregnant women.

An increased calorie intake is needed to support this weight gain. Women who were underweight prior to pregnancy or who are having difficulty gaining weight in pregnancy may need to use concentrated sources of calories and nutrients. These foods include milk shakes (soy milk blended with fruit and tofu or soy yogurt), nuts and nut butters, dried fruits, soy products and bean dips. Fatty foods like salad dressings, margarine, and oil are another source of concentrated calories. Small, frequent meals and snacks can help to increase food intake.

Protein recommendations for the second and third trimesters of pregnancy call for an additional 25 grams of protein daily. Attention to good sources of protein such as soy products, dried beans, whole grains, nuts and nut butters makes it possible to meet protein recommendations. As an example, 10-15 grams of protein can be added by adding two cups of soymilk or nine ounces of tofu or three ounces of tempeh to the usual diet.

Because folate is so important in the early development of the baby's nervous system, all women capable of becoming pregnant should consume 400 micrograms of folic acid from supplements or fortified foods in addition to good sources of dietary folate. Good sources include dark green leafy vegetables, orange juice, wheat germ, bran flakes, whole and enriched grains and cereals, and legumes (beans).

Vitamin B12 is a critical nutrient for the baby's development in pregnancy. Some good sources of vitamin B12 are many soymilks, ready-to-eat cereals, and fake meats. Be sure the label indicates, "Fortified with vitamin B12." Vegetarian Support Formula nutritional yeast also is a good source of vitamin B12. If a pregnant woman's diet does not have daily and reliable food sources, a prenatal B12 vitamin should be used.

Iron needs are greatly increased during pregnancy to support tissue growth and the increased blood supply of both the mother and baby. The current RDA for iron for pregnant vegetarians is close to 50 milligrams per day, a level that is difficult to

achieve without the use of iron supplements. Even when iron supplements are used, pregnant women should consume foods rich in iron like whole and enriched grains, leafy green vegetables, dried fruit, prune juice, legumes and tofu.

An increase in calcium or vitamin D intake during pregnancy is recommended only if calcium and vitamin D intakes were inadequate prior to pregnancy. To meet calcium needs, eat eight servings per day of calcium-rich foods. This could be a half cup of fortified-soymilk, calcium-set tofu, tempeh, soybeans, or calcium-fortified juice, one cup cooked collard greens, kale, broccoli, Chinese cabbage, mustard greens or okra. Vitamin D fortified foods or supplements are recommended for pregnant women who do not have adequate sun exposure.

Pregnant and breast-feeding vegans should include sources of linolenic acid in their diet. Linolenic acid is a type of fat that is used to make an important fatty acid called DHA (short for docosahexaenoic acid). DHA seems to play a role in the development of the brain and the eye. Sources of linolenic acid include ground flaxseed, flaxseed oil, canola oil and soybean oil. Vegan DHA supplements are also available.

Morning sickness (nausea and vomiting) is a concern of many pregnant women. Aversions to foods that used to make up the bulk of the diet are extremely common in early pregnancy. This is probably due to a heightened sense of smell and hormonal changes. Some coping mechanisms are: eating low-fat, high-carbohydrate foods which are digested more quickly; eating often; avoiding foods with strong smells and eating healthful foods which are tolerated. The healthcare provider should be contacted if a pregnant woman is unable to eat or drink adequate amounts of fluids for 24 hours.

### **Breast-feeding**

The best diet for breast-feeding is very similar to the diet recommended for pregnancy. Calorie and vitamin B12 needs are slightly higher, while the need for iron is reduced. It is a good idea to use a standard prenatal vitamin shortly before, during and after pregnancy, along with eating a well-balanced diet.

The ideal food for a baby's first year of life is breast milk. Benefits to the breast-fed baby include enhancement of the immune system, protection against infection and reduced risk of allergies. Benefits to the mom include reduced risk of premenopausal breast cancer, release of stress-relieving hormones and convenience. Breast-feeding also provides nutritional advantages such as higher bioavailability of iron, zinc and other micronutrients and a better digestibility of fat and protein. Lower levels of environmental contaminants such as DDT, DDE, and PCBs are seen in the breast milk of vegetarians compared to the breast milk of women in the general population.

### **Nutrition for Infants**

Growth and development throughout infancy is normal when vegetarian and vegan infants receive adequate amounts of breast milk or fortified infant formula and their diets are planned in accordance with current dietary recommendations and contain

good sources of energy and nutrients like iron, vitamin B12, and vitamin D. Extremely restrictive diets such as fruitarian and raw foods have been associated with growth delays. Such diets are not recommended for infants and children.

**Vitamin B12:** Vegan moms who are breast-feeding should use vitamin B-12-fortified foods or supplements daily. Breastfed infants should receive supplements of 0.4 micrograms of vitamin B12 for the first six months and 0.5 micrograms for infants aged six months to one year if the mother's diet does not contain reliable sources of vitamin B12.

**Vitamin D:** Breastfed infants should be supplemented with 5µg (200 IU) of vitamin D daily. Infant formula supplies adequate amounts of vitamin D. Vitamin D deficiency leads to rickets (soft, improperly mineralized bones).

**Iron:** The breastfed infant should be started on iron supplements or iron-fortified foods (like baby cereal) between four and six months. Formula-fed babies may not need the supplement since infant formula contains iron. Iron-fortified cereals provide additional iron. If you give iron supplements to your baby, ask your pediatrician for the correct dose.

It is important to note that ordinary soymilk, rice milk, and homemade formulas should not be used to replace breast milk or commercial infant formula during the first year. These foods do not contain the right amounts of nutrients for babies.

Solid foods should be introduced between four and six months of age. Try to introduce one food at a time, waiting two to three days before trying another food, to see if the baby has a reaction to the food. If an allergic reaction occurs, the offending food is more easily identified.

A good first food is iron-fortified infant rice cereal. It is an excellent source of iron, and rice cereal is least likely to cause an allergic response. Once the baby eats this cereal well, begin introducing other cereals such as oats, barley, and corn. Vegetables may be introduced next—again, one at a time to check for allergies. Vegetables must be well mashed or puréed. Well-mashed potatoes, carrots, peas, sweet potatoes, and green beans are good first vegetables.

Fruits are usually introduced after vegetables, theoretically in order to allow acceptance of vegetables before the sweet taste of fruits is experienced. Good first fruits are well-mashed bananas, pears, or peaches.

Protein foods are generally introduced around seven to eight months. Some good sources of protein include mashed, cooked legumes (beans); mashed tofu; and soy yogurt. Smooth nut and seed butters spread on bread or crackers can be introduced after the first birthday.

Many parents wish to make their own baby foods. These should be prepared without added sugar, salt, or spices. Foods should be well cooked, mashed or puréed, and handled under clean conditions. It is recommended that parents who choose to use commercial baby foods read the labels carefully.

Fat is important in brain development. Babies under age two need more calories and fat than at any other time in their lives. Some foods used to increase fat in the diet are mashed avocado, vegetable oil, and nut and seed butters. Spread on crackers for children older than one year.

To minimize the risk of choking, avoid foods like nuts, nut butters, vegetarian hot dogs, chunks of hard raw fruits and vegetables, whole grapes, hard candies and popcorn.

In families with a strong history of allergy, foods which contain common allergens such as citrus, egg whites and nuts are generally not introduced in the first year and peanuts and other nuts should not be introduced before three years. Honey and corn syrup should not be given to infants younger than one year because of the risk of botulism.

Commercial, fortified, full-fat soymilk can be added to the diet when an infant is at least a year old and is growing normally and eating a variety of foods. Following introduction of fortified soymilk, parents should continue to offer breast milk or commercial soy-based infant formula as a supplementary beverage until the child is at least two years old or is able to regularly drink 24 ounces of soymilk daily. Since soy milk is relatively low in fat, other foods that provide fat should be added to the diet of vegan infants so that dietary fat is not too low. Rice milk is not recommended as a main beverage for vegan infants and young children because it is low in calories and protein.

Young children have small stomachs and eating a lot of high-fiber foods may not give them enough calories. A diet rich in fresh fruits, vegetables and whole grains is also usually high in fiber. The fiber content of a vegan child's diet can be reduced by offering him or her some refined grain products, fruit juices, and peeled fruits and vegetables. Foods like avocado, nut and seed butters, dried fruits and soy products can pack a lot of calories into small quantities, which is great for the growing child. To promote synthesis of DHA, an important fat, include sources of linolenic acid like canola oil, flaxseed oil and soy products in the child's diet.

*To find out about the author, please see "About the Contributors" on pages 181-183.*