

FACT SHEET

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GOOD NUTRITION DURING PREGNANCY AND LACTATION

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Nutrition has a definite effect on the growth and development of the fetus and the condition of the infant at birth as well as later. Diet can make a definite change in the mother's general health and nutritional status throughout pregnancy and lactation.

Maternal Dietary Needs

Pregnant and nursing mothers' diets are especially important because the mother is supplying nutrients for the child through her own body; in the uterus before birth and through the milk she secretes after birth. These normal processes place extra strain on the mother's body. The nutritional status of a woman before, during and after pregnancy contributes to her well-being and the well-being of her infant.

The nutrients required by pregnant and nursing mothers are given in the Recommended Dietary Allowances (Table 1). Nutrients recommended for good health of the average U.S. population are based on available research. The allowances for pregnancy assume that the nutritional state of the mother is good at the onset of pregnancy. No allowances are made for any existing deficiencies. However, a physician may recommend changes.

Table 1 illustrates that all nutrient needs increase during pregnancy and lactation except for Vitamin D and iron during lactation.

Calories

An additional 300 calories per day (Table 1) is necessary to provide enough energy to build new tissue in the developing fetus and to support the increase in metabolism of the mother. An additional 500 calories per day is required during lactation to provide for the increased need for energy, protein, minerals

and vitamins to protect the mother's body. This will enable her to provide nourishment for the infant through adequate milk production.

The most desirable weight gain during pregnancy is generally 22 to 27 pounds (10 to 12 kilograms) unless the woman was underweight or overweight at the onset of pregnancy. The physician will adjust caloric intake accordingly. Physicians usually recommend a gradual weight gain — 1.5 to 3.0 pounds per month during the first 3 months and 0.8 pound per week during the last 6 months.

Protein

Protein is necessary for development of the baby's tissues and enlargement of the mother's body tissues. The requirements are influenced by the quality of the protein, the caloric intake and the nutritional state of the mother at the onset of pregnancy. Protein will be used for energy and will not be available for building body proteins unless sufficient fat and carbohydrates (energy nutrients) are eaten. Current Recommended Dietary Allowances of protein include an additional 30 grams per day for pregnancy and 20 grams per day through the lactation period.

Calcium

Calcium is important for the normal development of the growing fetus, the formation of strong bones and teeth and for the well-being of the mother during pregnancy and lactation. About 1200 milligrams of calcium is recommended during this time.

Calcium is the nutrient found to be most lacking in the diets of pregnant and nursing women. Fortified milk and milk group foods, the best source of calcium, supply about three-fourths of the calcium requirement in the diet. Milk group foods provide Vitamin D which is essential for the absorption of calcium.

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Iron

Iron intake is often insufficient during periods of childbearing. A normal amount of iron in the maternal diet, indicated by a normal hemoglobin count (red pigment in blood), is necessary for the baby to be born with a good iron reserve for the first months of life. This iron reserve is important because a newborn infant's diet is mostly milk — a food low in iron content.

The Recommended Dietary Allowance for iron is greatest during pregnancy and cannot be met entirely through food but must be supplemented by iron pills as recommended by the physician.

Folic Acid

An additional 400 milligrams of folic acid per day for pregnancy and 200 milligrams per day for lactation is recommended to protect the mother and fetus from the risk of anemia. Supplemental folic acid during pregnancy may be warranted according to the National Research Council, especially for women with low hemoglobin levels and/or multiple fetuses.

Sodium

Sodium in the diet of pregnant women is a major concern. Sodium is a chemical found in many sub-

stances as sodium chloride or table salt. The average diet contains from 5 to 10 grams of sodium. Many women have been advised to reduce their salt intake to prevent excessive weight gain and accumulation of body fluids.

Sodium retention during pregnancy is nature's way of conserving sodium to provide extra fluid to supply the expanded tissues and fluid compartments. The Recommended Dietary Allowance (RDA) does not recommend that this dietary essential be unduly restricted except as a medical measure in threatened toxemia.

Daily Food Needs

The Recommended Dietary Allowance must be translated into foods to be meaningful. The nutritive needs during pregnancy and lactation are best met through a balanced diet of ordinary foods. This diet should be one with servings from the Daily Four Food Groups — Milk Group, Meat Group, Fruit and Vegetable Group and Bread and Cereal Group. Adjustments in the basic diet for increased needs during pregnancy and lactation are shown in Table 2.

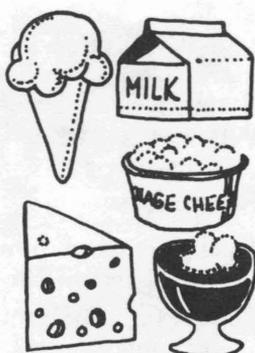
Table 1. Recommended daily dietary allowances (Revised 1974). (Food and Nutrition Board—National Research Council, National Academy of Science.)

Dietary Requirements	Age of females				
	15-18	19-22	23-50	Pregnant	Lactating
Calories (kcal)	2,100	2,100	2,000	+300	+500
Protein (gm)	48	46	46	+30	+20
Fat soluble vitamins					
A (RE)	800	800	800	1,000	1,200
D (IU)	400	400		400	400
E (IU)	12	12	12	15	15
Water soluble vitamins					
Ascorbic acid (mg)	45	45	45	60	60
Folacin (mg)	400	400	400	800	600
Niacin (mg)	14	14	13	+2	+4
Riboflavin (mg)	1.4	1.4	1.2	+0.3	+0.5
Thiamin (mg)	1.1	1.1	1.0	+0.3	+0.3
Vitamin B ₆ (mg)	2.0	2.0	2.0	2.5	2.5
Vitamin B ₁₂ (mg)	3.0	3.0	3.0	4.0	4.0
Minerals					
Calcium (mg)	1,200	800	800	1,200	1,200
Phosphorous (mg)	1,200	800	800	1,200	1,200
Iodine (ug)	115	100	100	125	150
Iron (mg)	18	18	18	18*	18*
Magnesium (mg)	300	300	300	450	450
Zinc (mg)	15	15	15	20	25

*Supplement of ferrous iron recommended.

Milk Group Foods

Eat 3 or more cups of Vitamin D fortified milk — whole, skim, buttermilk, or nonfat dry milk or milk group food such as cottage cheese during pregnancy — 4 or more cups during lactation.



Skim milk has about half the number of calories as whole milk and may be substituted for whole milk. Milk powder or canned milk may be substituted as a beverage or used in cooking. One-half cup of cottage cheese or 1 ounce of cheddar cheese also equals the calcium in 1 cup of milk.

Milk may be used alone or as an ingredient in beverages, custards, milk puddings, sauces and gravies. It is not difficult to include enough milk group foods in your diet. Milk group foods are rich sources of calcium, Vitamin D, phosphorus and high quality protein.

Meat Group Foods

Two or more servings, a total of at least 6 ounces, of protein-containing meat group foods are recommended daily. Foods such as cooked meat, poultry, fish or less expensive meat alternates such as dried peas, beans or eggs are in this food group. A minimum of four to five eggs a week, as a breakfast food or as an ingredient in desserts, salads or snacks, is recom-



mended. One-half serving ($\frac{1}{2}$ cup) of dried peas or beans or 2 tablespoons of peanut butter may be substituted for meat. The protein of these meat alternates is not adequate eaten alone and must be eaten in combination with an animal protein such as milk or cheese to improve the quality of the protein.

Meat group foods provide sources of protein, iron and B-vitamins.

Fruit and Vegetable Group

Four or more $\frac{1}{2}$ -cup servings of fruits and vegetables, including dark green, leafy or deep yellow and other vegetables, are needed to provide Vitamin A. Use these vegetables in salads or soups, as a vegetable accompaniment to meats or in casseroles. One serving of citrus fruits during pregnancy or two servings of citrus during lactation is necessary to provide enough Vitamin C. Serve oranges or grapefruits fresh, frozen or canned whole or in sections. Leafy vegetables and fruits contain some folic acid and calcium.



Bread and Cereal Group

Eat four or more servings of whole grain or enriched bread, cereal, cornmeal, macaroni, noodles, rice or spaghetti during pregnancy; five or more servings during lactation. Serve a variety of breads and hot or cold enriched cereals. Breads are



Table 2. Adjustment of Basic Diet for Pregnancy and Lactation.*

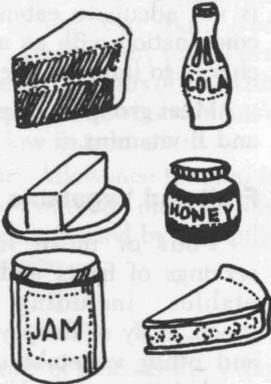
Food	Basic Diet	Pregnancy	Lactation
Milk, whole	2 cups	3 or more cups	4 or more cups
Egg	1	1	1
Meat, poultry, fish	4 oz. edible portion	6 oz. edible portion	6 oz. edible portion
Bread and cereal, whole grain or enriched	3 slices + $\frac{2}{3}$ cup cereal	4 slices + $\frac{2}{3}$ cup cereal	5 slices + $\frac{2}{3}$ cup cereal
Vegetable, dark green, leafy, or deep yellow	$\frac{1}{2}$ cup	$\frac{1}{2}$ cup	$\frac{1}{2}$ cup
Vegetable, other	$2\frac{1}{2}$ cups	$2\frac{1}{2}$ cups	$2\frac{1}{2}$ cups
Fruit, citrus	4 fl. oz. or 1 serving	4 fl. oz. or 1 serving	8 fl. oz. or 2 servings
Fruit, other	2 servings (1 cup)	2 servings (1 cup)	2 servings (1 cup)
Butter or margarine, oils	3 tsp.	$4\frac{1}{2}$ tsp.	2 tbs.

*From Fleck, Henrietta: *Introduction to Nutrition*, 2nd edition, London: The Macmillan Company, 1971.

a good source of B-vitamins, protein, and contain some iron and magnesium. Avoid too many sugar coated cereals and higher calori ed breads containing nuts.

Other Foods Group

Serve at least 4½ tea- spoons of fats — butter or margarine — in the diet daily during pregnancy and 2 tablespoons during lactation. Fats provide fuel for the body to give energy for activities.



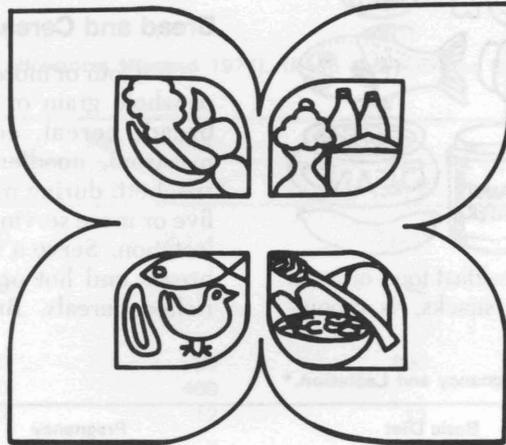
Carbohydrates are also found in the Other Foods Group in sugars, honey, syrups, sugar, jams and jellies and provide energy for activities.

These foods in the other group enhance the flavor of meals. They should be used wisely especially during pregnancy and lactation to prevent excessive weight gain.

Eat wisely from the Basic Four Food Groups. Good nutrition does have a positive effect on the growth and development of the fetus and the health of the mother during pregnancy and lactation.

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