



*Photograph by Margaret Bonine Fox.
From: Your Child's Food, by Miriam E. Lowenberg.*

UNITED STATES DEPARTMENT OF LABOR

Frances Perkins, Secretary

CHILDREN'S BUREAU - Katharine F. Lenroot, Chief

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The Road to Good Nutrition

By

LYDIA J. ROBERTS

In collaboration with
members of the Children's Bureau staff



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Much of the material in this bulletin was based by Dr. Roberts on her textbook, Nutrition Work With Children, by permission of the publisher, the University of Chicago Press.

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Letter of Transmittal

UNITED STATES DEPARTMENT OF LABOR,
CHILDREN'S BUREAU,
Washington, March 23, 1942.

MADAM: Herewith is transmitted a bulletin, *The Road to Good Nutrition*, written by Lydia J. Roberts in collaboration with members of the Children's Bureau staff.

The present war emergency makes it necessary that persons responsible for the health of children at various stages of life be better acquainted with their nutritional needs and with methods of dealing with such needs. It is hoped that this bulletin will help parents, teachers, and others in the important task of keeping children on the road to good nutrition.

Respectfully submitted.

KATHARINE F. LENROOT, *Chief.*

HON. FRANCES PERKINS,
Secretary of Labor.

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Statement of Assets and Liabilities

Assets

Cash	100.00
Accounts receivable	200.00
Inventory	300.00
Property, plant, and equipment	400.00
Intangible assets	500.00
Other assets	600.00
Total Assets	2100.00

Liabilities

Accounts payable	100.00
Notes payable	200.00
Other liabilities	300.00
Total Liabilities	600.00

Equity

Common stock	1000.00
Retained earnings	500.00
Total Equity	1500.00

Total Liabilities and Equity: 2100.00

The Road to Good Nutrition

All parents want their children to be well nourished. If this desire is to be realized, the parents should have in mind a picture of what a well-nourished child is like and what their own child, with his particular heredity, is capable of attaining. If they will learn to recognize the characteristics of a well-nourished child, as a farmer or a housewife recognizes the characteristics of an excellent ear of corn or loaf of bread, they will be better able to direct their children along the road to good nutrition. If they have no standard by which to judge the child's nutrition they may think that it is good when in reality it is poor.

A description of the well-nourished child is given in this bulletin, with a general outline of the care that should bring about this desirable condition. Some of the signs that indicate nutritional failure in a child are described, and the chief hazards to nutrition at various periods of a child's life are pointed out, so that parents, with the advice of their physician, may recognize and deal with these hazards.

An effort has been made to give a general view of the problem of nutritional guidance throughout the period of growth, with special attention to the continuity of the child's life. Throughout the bulletin emphasis has been put on the positive side of good nutrition and the methods of attaining it.

The Healthy, Well-Nourished Child

When a child is well nourished every part of his body is receiving all the food materials that it needs in order to grow and function as it should. Each part of such a child's body, such as the bones, the teeth, and the blood, is constantly supplied with all that it needs of each of the dietary essentials. These essentials include, in addition to water: (1) Protein for the building and repair of all body tissues; (2) fat and carbohydrate to furnish fuel for bodily activities and to supply some surplus to store as body fat; (3) all the minerals and vitamins that are essential to life, growth, and well-being.

Though all parts of the body need some of each of these dietary essentials, certain parts need especially large amounts of them. For example, the bones and teeth need relatively large amounts of calcium, phosphorus, and vitamin D; the blood, of iron; the thyroid gland, of iodine.

If the child is to be well nourished, it is necessary that the food that he eats every day, year in and year out, shall contain all the essential food factors in abundance and also that this food shall be well digested and absorbed and shall be carried to the tissues in all parts of the body.

One cannot look into a child's body and examine the individual cells and organs to see whether they are receiving everything they need. By examining the child, however, one can judge to some extent whether his nutrition is adequate. When a physician examines a child and says that he is well nourished, he means that in his judgment the needs of the child's tissues are being met.

What are the "outward and visible signs" of good nutrition? Before these are named it should be stated that even healthy, well-nourished children differ in many respects, according to age, sex, and the race and family from which they come. They vary in body shape and size, even at the same age; some will be tall and slender, others short and stocky. They differ also in color of hair, eyes, and skin and in other characteristics. But with all these differences children who are well nourished have certain characteristics in common, as follows:

General characteristics.—The healthy, well-nourished child has a general appearance of well-being and fullness of life that is characteristic of all healthy young animals.



Photograph by Extension Service, United States Department of Agriculture

Children should spend as much time as possible outdoors.

The best test of the wholesomeness of a child's living is his sleep.





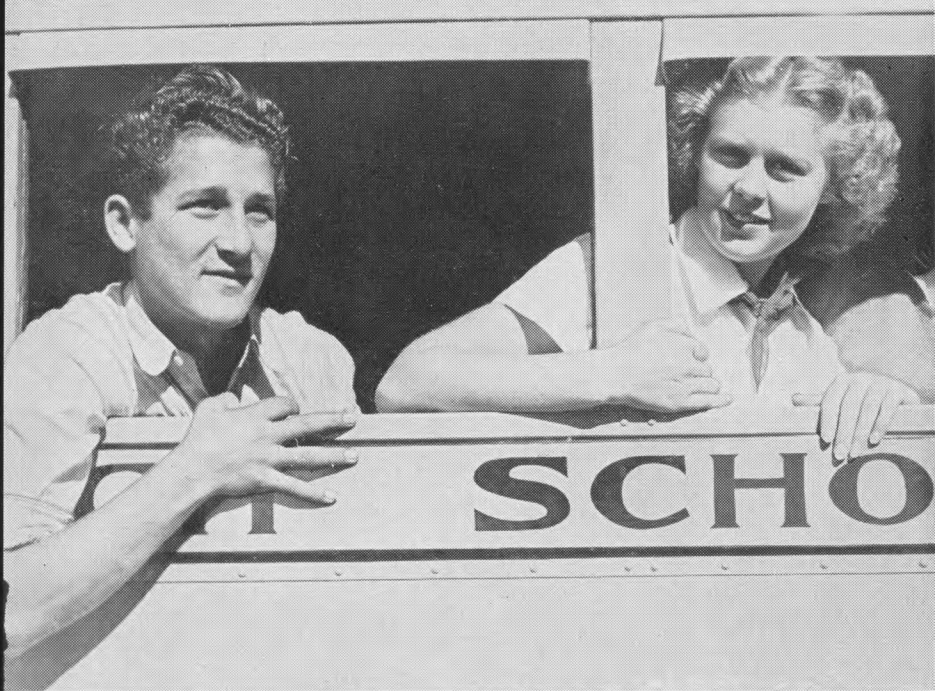
Photograph by Harold Sonnichsen.

This little girl is starting on the road to good nutrition.



Photograph by Mariam E. Lowenberg

The same little girl a year later, healthy and well nourished.



Photograph by National Youth Administration, Federal Security Agency.

An alert, happy expression is one of the signs of good nutrition.

When lunch is served at school, the children's selection of foods should be supervised.

Photograph by Extension Service, United States Department of Agriculture.



In the infant this is manifested by an air of contentment and peace with the world. He sleeps long and soundly. When awake he lies cooing, gurgling, waving his arms, and kicking happily, or he plays contentedly. If his general care and training have been good he cries seldom, and then usually because he is hungry, wet, or otherwise uncomfortable.

The older child who is healthy and well nourished likewise has an air of contentment, vigor, and interest in life. His body is upstanding; his eyes are clear and bright; his facial expression is alert and happy. His general appearance is one of physical fitness, ability to do, and enjoyment of life.

In the healthy, well-nourished child of any age appetite and digestion are good, elimination is regular, and sleep is sound, wholesome, and refreshing.

Bones.—The bony framework of the well-nourished child is strong and well-built. His head and chest are well shaped, and his arms and legs are straight.

Teeth.—The teeth of the well-nourished child—"baby teeth" as well as permanent ones—are likely to be well formed and sound. The gums are firm and light pink and hug the teeth closely; there is no tendency to bleeding.

Muscles.—If the child is well nourished and has had plenty of the right kind of exercise, his muscles are well developed and strong. This is shown by their size and firmness and symmetry and by the child's ability to use them in activities appropriate to his age.

Posture.—The posture of the well-nourished child tends to be erect, showing adequate development and proper balance of the various muscles. The head is erect and well balanced. The chest is symmetrical, and the shoulder blades are flat. In early childhood the abdomen is usually somewhat prominent, but after the age of 3 or 4 years it should not extend beyond the chest; after this age the chest leads.

Fat padding.—In a well-nourished child the bones and muscles of the arms, legs, and entire body are covered with a moderate padding of fat. This gives the body a well-rounded appearance, with curves rather than sharp angles. The tissues beneath the skin are firm. A physician would say that there is good "tissue turgor."

Blood and skin.—The body of the well-nourished child has a good supply of red blood, containing the normal amount of hemoglobin and the normal number of red blood cells, as determined by a doctor's tests. One outward sign of a good blood supply is the pinkish color of the mucous membranes inside the mouth and eyelids, the ears as seen against light, and the fingernails. The natural skin pigment varies in persons of different races and in blonds and brunets and is

affected by tanning. Whatever the color, however, if the child is well nourished his skin will have a healthy appearance that comes from a good blood supply. The cheeks may or may not be red, for red cheeks are a family characteristic, but the skin will have a ruddy tinge after exercise or play outdoors.

Such in the main are the characteristics of the healthy well-nourished child. The picture facing page 47, shows such a child at three ages. It will be seen that the child's body proportions changed as he grew older. The short legs and chubby body that he had as a little child changed into the relatively longer legs and slender body characteristic of older children. Well-nourished children of the same age also vary in body build; some are slender and some are stocky.

The Malnourished Child

Malnutrition is faulty or poor nutrition. It means that some or all the parts of the body are not getting all they need of the necessary food materials. This may be either because the food the child eats does not supply these materials in sufficient amounts or because the body is unable to digest and absorb them. In either case the needed materials are not supplied to the cells, and they become malnourished.

No one description will fit every malnourished child. There are many kinds and degrees of malnutrition, depending upon which of the dietary essentials are lacking and the degree of shortage of each; and the signs of malnutrition vary with the kind and degree of the deficiency. With every such deficiency, however, there is failure to measure up in some respect to the standards of good nutrition.

SPECIFIC TYPES OF MALNUTRITION

If there is a lack of any one of the dietary essentials the organs or tissues needing the largest amounts of that material will suffer most, and if there is a great lack of any one of the dietary essentials a specific deficiency disease will result. (These deficiency diseases are sometimes considered specific types of malnutrition, as distinguished from general malnutrition.)

For example, if too little of the iron or copper or other materials needed for building enough normal red blood cells is supplied in the diet, the blood becomes pale, and the child is said to be anemic (or to have *nutritional anemia*).

If calcium and phosphorus and vitamin D are not supplied in sufficient amounts the bones become malnourished. If this happens to babies or young children, the bones tend to become soft and bend easily, the disease called *rickets* may occur, and lasting deformities may result. Rickets does not occur in older children, but a deficiency in calcium, phosphorus, and vitamin D prevents these children's bones from growing as they should and from being firm and strong.

A shortage of iodine in the diet causes an enlargement of the thyroid gland, and the resulting condition is known as *goiter*.

Long-continued shortage of vitamin A results in night blindness, or inability to see in a dim light. An extreme lack of vitamin A may eventually cause a serious eye disease called *xerophthalmia*.

Inadequacy in the supply of thiamine (vitamin B₁), is shown by lack of appetite, by impaired functioning of the digestive and nervous systems, and eventually by all the symptoms of a disease of the nervous system called *beriberi*.

Deficiency in ascorbic acid (vitamin C) causes a disease known as *scurvy*. This disease is manifested chiefly by tenderness and easy bleeding of the gums; loosening of the tissues around the teeth; and pain or soreness in the muscles or joints—a condition that may be mistaken for rheumatism.

Deficiency in nicotinic acid is responsible for the most characteristic symptoms of the disease called *pellagra*. This disease is marked by digestive and nervous symptoms and also by a skin condition in which dark patches appear on the face, the hands, the arms, or other exposed parts. These patches usually appear as matched spots, as on both hands, both feet, or both cheeks.

A lack of riboflavin (vitamin G) results in a condition known as *cheilosis*, or "poor man's mouth." This is characterized by inflammation and scaling at the corners of the mouth. It may also cause lesions around the nose and eye and functional disturbances in the eye. These conditions are commonly found associated with pellagra.

Other vitamins are known to be essential in nutrition—pyridoxin (B₆), choline, and pantothenic acid, but no specific disease in man has yet been shown to result from deficiencies in them.

The deficiency diseases in this country are much less common in severe form than they once were. But in mild form they are not infrequent, and some severe cases still occur. Pellagra is still found to a considerable extent, especially in the South. Severe rickets, once very prevalent among infants, is fast decreasing as babies are given vitamin-D preparations and sun baths, but it is still found, especially in the poorer sections of large Northern cities. Advanced cases of scurvy in babies are no longer common, now that orange juice and tomato juice are fed to babies in the earliest months of life. Nevertheless, scurvy in a mild form still occurs extensively in all economic groups.

GENERAL MALNUTRITION

The specific deficiency diseases that have been described appear in clear-cut form only when the food factor concerned is completely lacking over a short period of time or is supplied inadequately for a long time.

A more usual type of malnutrition, which is not so commonly recognized as such, is general malnutrition resulting from a diet low in a number of the dietary essentials. Iron, calcium, and other minerals may all be insufficient in amount. One or more of the

vitamins may be supplied too meagerly. The protein may be inadequate in quality or quantity, or both, for the best growth of muscles and other tissues. The total quantity of food eaten by the child may not be great enough to supply energy for his bodily activities. In this case his own body fat, and in time even his muscle tissue, will be used up to furnish the necessary energy, and his body will become thin and undernourished. The result of these inadequacies is a combination of mild symptoms of the various diseases mentioned in the preceding section and a general lack of well-being. A child who has a chronic disease or a physical defect that interferes with nutrition is likely to suffer from general malnutrition, even if his diet and habits are good, for the food that such a child eats may not be properly utilized by his body.

DESCRIPTION OF A MALNOURISHED CHILD

Even a casual look at a child who is very much malnourished tells an experienced observer that something is wrong. He lacks, first of all, the vigor and poise of a well-nourished child; his face has a strained, worried, "down and out" look; his general attitude is one of drooping fatigue. He may appear fairly normal at play, or in animated conversation, but when he is in repose an attitude of fatigue and ill-being appears. A malnourished child as a rule is thin, his muscles are small and flabby, his head sags forward, his abdomen protrudes, his chest is flat, and his shoulder blades extend like wings. His teeth are likely to be decayed, and even though cavities are filled the teeth soon decay again. The gums may be tender and may bleed easily. The mucous membranes inside the mouth and eyelids are pale.

In such a child the animal spirits natural to all healthy young are likely to be lacking. He may be listless and inactive, and may therefore be considered lazy, or he may be of the overactive, high-strung type, constantly on the go. Such a child usually tires easily, lacks endurance, and is irritable and difficult to manage.

The care of a malnourished child should be under the constant direction of a physician, who, after investigating the causes of the child's malnutrition, will advise the parents about treatment and will help them to work out the needed changes in his habits of living.

DEGREES OF MALNUTRITION

Children cannot be separated definitely into two groups, the well-nourished and the malnourished, for there are many degrees between these two extremes. It is customary, therefore, for physicians to rate the nutritional condition of children in five classes, "excellent," "good," "fair," "poor," and "very poor" (or in some similar classes). Physicians may vary somewhat in rating a child, but in any case

children in the lowest groups ("poor" and "very poor") should be considered as definitely undernourished.

It is a mistake for parents to be content if their child's rating is only "fair," for in most cases he could be brought up to a higher rating by proper care. Moreover, every child who is not in the "excellent" group should be regarded as in some degree malnourished, and efforts should be made to bring him into the ranks of the well-nourished.

Four definitely malnourished children are shown in the picture facing page 46. The page following this picture shows four views of a somewhat malnourished child. When this child is fully dressed he might seem to be well nourished, but when wearing only running pants he shows signs of malnutrition. These pictures indicate the necessity for examining a child without clothes before judging his nutritional condition.

EXTENT OF MALNUTRITION

How do the children throughout the United States measure up to these standards of good nutrition? This question cannot be answered with any exactness, for no Nation-wide examination of children has ever been made. In the few studies in which the number of well-nourished children has been reported, the proportion of such children is found to be disappointingly small. The large majority of the children examined are considered "fair," and many are definitely "poor."

It must not be assumed that all children in families of low economic status are malnourished or that all children of well-to-do families are well nourished. It is true that children may be undernourished because their parents do not have enough money to enable them to have the proper foods and the other essentials for good nutrition. Many families in modest circumstances, however, are able to keep their children in good nutritional condition by making the best use of the resources they have. In general, nutrition is better in children in well-to-do families. These children are larger than children of the same age and race in poor families, and their teeth are freer from decay. Nevertheless, because of some children's pampered appetites, their overindulgence in sweets and other refined foods, and failure by their parents to see that they follow an adequate diet and in other respects live wholesomely, malnutrition is too commonly found among well-to-do families. At all levels of income, then, parents need to know how to safeguard their children's nutrition through suitable foods and good health habits.

Good Nutrition Throughout the Child's Life

With an ideal in mind of what constitutes a well-nourished child, the question is, What can parents do to insure good nutrition in their children at all ages?

The program of care should begin in the prenatal period. It should aim to provide all the essentials of good nutrition continuously throughout the growth period. This means that it is the parents' duty, for a period of 18 to 20 years—a total of more than 6,000 days—to provide their child with everything necessary to keep every cell in his body well supplied with everything that it needs.

Prospective parents may well look upon the project as a journey the child is to take from prenatal life to maturity. The parents' effort should be to keep the child constantly on the road to good nutrition and good health and to prevent him from wandering off into dangerous byways. This may seem an almost impossible task, but fortunately it is not so difficult as it appears. The journey is taken only one step at a time; the road is easy and well charted; and the danger spots have been well marked.

The task of keeping the child well nourished at every period of childhood requires: (1) That the child should eat, digest, and absorb the essential foods in the amount and form suited to his needs; (2) that he should get sufficient outdoor play and exercise, with plenty of direct sunlight; (3) that he should get enough rest and refreshing sleep; (4) that his general health habits should be good; (5) that he should be free from chronic infection or physical defect that would interfere with nutrition; (6) that he should be protected against communicable disease.

The general aspects of these requirements that continue throughout the growing period will first be considered. Then the special requirements as well as the special hazards for each age period will be described.

NEEDS THAT CONTINUE THROUGHOUT THE CHILD'S LIFE

FOOD

In order that a child may be healthy, well-nourished, and vigorous, he must eat the foods that meet his needs. The food requirements of a child are greater in proportion to his age than those of an adult. An

adult's food must supply him with energy (incidentally with heat), maintain his body processes, and repair his worn-out tissues. A child's food must do all these things and must also build new tissues constantly, as he grows taller and gains weight month by month. If a child's diet does not supply all these needs, he will suffer from malnutrition.

A mother who plans the day's meals for her children should know which foods fulfill the children's needs with regard to the dietary essentials, so that, whether she has a wide or a restricted choice, she can select with good judgment from whatever foods are available and get the best value for her food money. If she is to prepare the foods in such a way that the children will get the greatest possible benefit, she should know also how various cooking processes affect the nutritive value and digestibility of foods. The following section lists the dietary essentials and describes what they do for the body; tells which common foods are important sources of these essentials; and makes some suggestions with regard to the preparation of various types of food.

WHAT THE DAY'S FOOD SHOULD PROVIDE AND WHY

	Dietary essentials	What the dietary essentials do for the body
PROTEINS	Proteins-----	{Build and repair muscles, glands, blood, and other tissues. {Furnish material for substances that regulate body processes. {Furnish energy for bodily activities.
MINERAL ELEMENTS	Calcium and phosphorus-----	Build and maintain teeth and bones. Constitute part of muscle and nerve tissue and of body fluids.
	Iron-----	Constitutes part of red blood cells which carry oxygen to all parts of body.
	Iodine-----	Constitutes part of thyroid gland, which regulates rate at which energy is used by body.
		(Copper, magnesium, manganese, potassium, sodium and other mineral elements are also essential; they are probably present in adequate amounts in diets that supply plenty of calcium, phosphorus, iron, and iodine.)
VITAMINS	Vitamin A-----	Is essential to tissues that cover and line body and help it to resist infection. Takes part in adaptation of eye to dim light.
	Thiamine (vitamin B ₁)-----	Each takes a specific part in process by which foods are burned in body.
	Riboflavin (vitamin G)-----	
	Nicotinic acid-----	
	Ascorbic acid (vitamin C)-----	Is essential to health of teeth, bones, blood vessels, and other tissues.
Vitamin D-----	Helps body to use calcium and phosphorus in food.	

WHAT THE DAY'S FOOD SHOULD PROVIDE AND WHY—Continued

Dietary essentials		What the dietary essentials do for the body
CARBOHYDRATES	Starch.....	} Furnish energy for work.
	Sugar.....	
FATS	Fats and oils.....	} Furnish energy for work. } Give staying power to meals. } Provide fatty acids essential to health.

SOME COMMON FOODS AND THEIR MOST IMPORTANT CONTRIBUTIONS TO BODY'S NEEDS

Food	Most important contributions to body's needs	
MILK AND CHEESE	Fresh whole milk (or its equivalent in unsweetened evaporated or dried whole milk).	Is main source of calcium and vitamin G. Supplies also protein, phosphorus, vitamin A, and vitamin B ₁ .
	Fresh skim milk and butter-milk (or equivalent in dried skim milk or dried butter-milk).	Makes same contributions as whole milk, except vitamin A.
	Cream.....	Contributes more vitamin A than whole milk does and less of the other vitamins and minerals.
	Cheese made from whole milk ..	A generous serving supplies equivalent of 1 cup whole milk in protein, calcium, phosphorus, and vitamin A.
Cottage cheese.....	Is good source of protein and phosphorus; is low in the other minerals and in vitamins.	
FRUITS	Fruits in general.....	All fruits help in meeting the body's needs for iron, vitamin B ₁ , and vitamin G. Some fruits make special contributions, as is shown below.
	Oranges, grapefruit, strawberries, cantaloupe.	These fruits are the best source of vitamin C. One average serving will supply a day's need for vitamin C.
	Apples, bananas, peaches, pears, and most of the common fresh fruits, <i>raw</i> .	These fruits, eaten <i>raw</i> in generous quantities, provide significant amounts of vitamin C, although much less of it than the fruits listed above.
	Peaches, apricots, and prunes, and other yellow-fleshed fruits.	Yellow-fleshed fruits supply important amounts of vitamin A.
Dried apricots, dates, figs, prunes, and raisins.	These dried fruits are better than average sources of iron.	

SOME COMMON FOODS AND THEIR MOST IMPORTANT CONTRIBUTIONS TO BODY'S NEEDS—
Continued

Food	Most important contributions to body's needs
<p style="text-align: center;">VEGETABLES</p> <p>Vegetables in general -----</p> <p>Chard, kale, spinach, turnip greens, watercress, and other thin, dark-green leaves.</p> <p>Broccoli, peas, string beans, sweetpotatoes, carrots, and other green or yellow vegetables.</p> <p>Cabbage -----</p> <p>Tomatoes—raw, cooked, or commercially canned.</p> <p>Potatoes, white (Irish) -----</p> <p>Mature beans, peas, and other legumes, such as peanuts and lentils.</p>	<p>Are important sources of various minerals and vitamins, some more than others, as is shown below.</p> <p>Thin, dark-green leaves, eaten raw or properly cooked, are an important source of iron, vitamin A, vitamin B₁, and vitamin G. Generous servings of such greens, raw, supply liberal amounts of vitamin C. Many of these greens help to fulfill the body's needs for calcium.</p> <p>Other green vegetables and yellow ones are valuable chiefly for vitamin A. Sweetpotatoes are economical energy foods.</p> <p>Is a good source of vitamin C when eaten raw.</p> <p>Are an excellent source of vitamin C and a good source of vitamin A.</p> <p>Baked or boiled in skins, potatoes, especially new potatoes, are a good source of vitamin C, and provide appreciable amounts of iron and vitamin B₁. They are also economical energy foods.</p> <p>Are good sources of protein, iron, vitamin B₁, and vitamin G. Help to meet the body's needs for calcium and phosphorus. Are economical energy foods.</p>
<p style="text-align: center;">EGGS, LEAN MEAT, FISH</p> <p>Eggs -----</p> <p>Lean muscle meat, including poultry.</p> <p>Liver, kidneys, and other organs.</p> <p>Fish -----</p> <p>Shellfish, such as oysters -----</p>	<p>Are most important for protein, iron, vitamin B₁, vitamin G, and nicotinic acid. These foods supply phosphorus also. Eggs and liver supply vitamin A. Salt-water fish and shellfish supply iodine.</p>
<p style="text-align: center;">GRAIN PRODUCTS</p> <p>Grain products in general -----</p> <p>Dark or whole-grain or enriched bread, flour, and breakfast cereals.</p> <p>Macaroni, grits, white rice -----</p>	<p>Are economical energy foods that furnish significant amounts of protein.</p> <p>Are important sources of iron, vitamin B₁, and vitamin G.</p> <p>Are refined grain products; they cannot take the place of potatoes or other vegetables.</p>
<p style="text-align: center;">NUTS</p> <p>Nuts in general ¹ -----</p>	<p>Are concentrated sources of energy and protein and fairly good sources of phosphorus and vitamin B₁.</p>
<p style="text-align: center;">SUGAR AND SIRUPS</p> <p>Refined sugar -----</p> <p>Corn sirup -----</p> <p>Honey -----</p> <p>Molasses -----</p> <p>Sorghum sirup -----</p>	<p>Are concentrated energy foods. Dark molasses and sorghum sirup contribute also calcium and iron.</p>
<p style="text-align: center;">FATS AND OILS</p> <p>Butter -----</p> <p>Margarine -----</p> <p>Lard and hardened vegetable fats.</p> <p>Olive oil and cottonseed oils -----</p> <p>Bacon -----</p> <p>Salt pork -----</p> <p>Cod-liver oil -----</p>	<p>Are concentrated energy foods. Butter, cod-liver oil, and margarine to which vitamin A has been added are important sources of vitamin A. Cod-liver oil is also very rich in vitamin D.</p>

¹ This does not include the peanut, which is a legume, and is therefore listed with the vegetables.

A daily food plan for children past infancy.

It is not necessary for the parents to count up daily the amount a child gets of each of the food essentials named in the preceding sections. Nutritionists have worked out daily food plans that show the quantities of various types of food that will provide enough of each essential. Following is one such plan, which may be used in selecting foods for children of all ages after infancy.

Milk.—One and one-half pints to one quart.

Fruit.—Two or more servings. One should be citrus fruit or tomatoes or other good source of vitamin C.

Vegetables.—Potatoes and at least one or two other vegetables (green or yellow vegetables often).

Eggs.—One egg.

Lean meat, fish, or meat substitute.—One or two servings.

Bread and butter.—At two or three meals (dark or enriched bread often).

Cereal.—At one or two meals (dark or enriched cereals often).

Cod-liver oil.—About two teaspoonfuls a day during the child's second year. After that ask the doctor.

Additional foods, as needed, to satisfy the child's appetite and to provide energy. The amounts will vary with the age and size of the child. These additional foods should not take the place of the foods already listed in the plan.

If a child gets these foods every day in the amounts specified, the parents can be reasonably sure that his needs are being met.

The amount of milk specified in the plan fulfills the child's need for calcium and also supplies protein, phosphorus, and vitamins A, B₁, and G in generous amounts. The eggs supplement the milk for protein, phosphorus, iron, and vitamins A, B₁, and G. The fruits and vegetables all provide some iron and some vitamins; the raw fruit and vegetables fulfill the child's need for vitamin C (most cooked fruits and vegetables are not a dependable source of vitamin C, although when properly cooked they retain part of the vitamin C that they contained when raw). The meat supplies additional protein, vitamins B₁ and G, and iron. The dark or whole-grain or enriched cereal and bread contribute some vitamin B₁ and iron. The cod-liver oil is given to provide vitamin D—daily all the year around to children less than 2 years old, and to older children during cold or cloudy seasons (cod-liver oil also supplies liberal amounts of vitamin A).

The basic foods listed in the preceding paragraph meet the child's need for protein and for most of the minerals and vitamins. They

fall far short, however, of meeting his need for energy food; at least half of this need is met by the additional foods that the child eats to satisfy his appetite—cereals and bread, butter and other fats, and sweets.

The chart on pages 18–19, entitled, “How an adolescent boy’s daily food needs are met,” illustrates how a sample day’s food meets a child’s daily need for the dietary essentials. The chart has been planned for an adolescent boy because his needs exemplify strikingly the needs of children for food that provides both for their activity and their growth.

Milk.—Whole milk is best for children, especially for young children, but as page 11 shows, skim milk, although not so rich as whole milk in some important respects, is equally rich in protein, calcium, phosphorus, and vitamin G. When the water that was removed in the manufacturing process has been restored, unsweetened evaporated milk and dried milk have essentially the same nutritive value as the fresh milk from which they were made. Evaporated and dried milk are almost sure to be free from disease germs when they are purchased; fresh whole milk can likewise be free from germs if it comes from a safe supply. Proper pasteurization of milk or boiling of milk will make it safe. This applies to milk from the family cow as well as to milk that is bought. It is advisable to boil any milk that is given to children under 2 (except evaporated milk, which has been heated and sterilized), because it is so important to be sure that the milk they drink is safe. Besides, boiled milk is easier for many young children to digest. No raw milk should be given to children.

Cheese can take the place of some milk in the day’s food for children over 2. Cottage cheese, cream cheese, and mild American cheese combined with other foods are suitable foods for children. Cheese should be made from milk that is safe for drinking.

Vegetables and fruits.—Vegetables and fruits are valuable chiefly for their minerals and vitamins (see pp. 11–12, for the mineral and vitamin values of different types of fruits and vegetables). Raw fruits or vegetables should be included in every child’s diet. Orange juice and mashed ripe bananas are given even to babies. After infancy children can eat an ever increasing variety of tender raw vegetables and ripe fruits. Among those that can be given early are cabbage, carrots, lettuce, tomatoes, and turnips or rutabagas, apples, apricots, and peaches. These raw foods must, of course, be thoroughly washed.

Vegetables and fruits should be prepared so as to retain as much as possible of their minerals and vitamins. Some of these minerals and vitamins are dissolved in the cooking water and are lost if the water is thrown away. There is also some destruction of vitamins when foods

are heated, and the longer they are cooked the greater is the loss. The best method of conserving these food values is steaming or baking or cooking for a very short time in a small amount of water. When possible, the cooking water from vegetables should be used in making soups and gravies. Baking soda should never be added to the cooking water because it increases the destruction of some vitamins, especially vitamin B₁ and vitamin C. In cooking vegetables for young children it is undesirable to use fat, either for frying or as fat meat boiled with the vegetable.

Vegetables for children should be seasoned lightly with salt, and, except for babies, may be served with a little butter, cream, or milk. Fruit needs to be only lightly sweetened in cooking.

The texture of fruits and vegetables as served affects children's enjoyment of these foods. Babies become accustomed to the flavor of fruits and vegetables through tasting the juices; before the end of the first year they are given the pulp. During their second year children can eat mashed or finely chopped fruits and vegetables. For a few more years the pieces should be of a size that the child can handle easily with a spoon, and the food should be free from coarse woody fiber, such as the strings of the outer stalks of celery. In general, children prefer vegetables that are crisp if they are also tender.

Eggs.—Eggs, especially the yolk, are rich in many dietary essentials (see p. 12). Yolk of egg is given very early in infancy because it contains the iron that the baby needs especially at that time. As eggs do not agree with all children, only a small amount should be offered until the mother is sure that her baby does not react unfavorably. After a child is a year old he can, as a rule, take a whole egg a day, either served as a main dish or combined with milk in a simple dessert. Eggs for children are best poached, or cooked in their shells; for young children especially they should not be cooked in fat.

Lean meat and fish.—Tender lean meat, fish, or poultry is needed in the diet, and small servings are usually given to children early in the second year. At first the meat should be scraped free from fiber; later it needs merely to be chopped or cut fine. As is shown on page 12, liver is a particularly valuable form of meat. Salt-water fish and shellfish are rich in iodine. Meat and fish for children should be cooked so as to be tender and moist, by broiling, roasting, or stewing at a moderate temperature; for young children they should not be fried. Highly seasoned meats, such as sausage, and smoked or pickled fish are unsuitable foods for young children.

Among the foods that may serve as substitutes for meat are eggs, cheese, peanut butter, and dried beans. The suitability of these foods varies with the age of the child. For example, dried beans, if given

to children under 6, should be soaked, boiled, and mashed through a strainer and served with milk.

Cereals and bread.—Starting with cereals that have been strained to remove the fiber, babies gradually learn to eat cereals that are thoroughly cooked but not strained. As soon as a baby has teeth he should be given a crust of dry bread to bite.

Dark or whole-grain cereals and bread contain all the minerals and vitamins in the grain; and they, as well as enriched cereals and breads, should be emphasized in the diet of children (see p. 12). The term, "enriched," when applied to flour, cereal, or bread means that the product contains more vitamins and minerals than ordinary white flour, or refined cereal, or bread made from ordinary white flour. Enriched *flour* may be made in one of two ways: (1) By a special milling process that removes the coarser bran from the whole grain but retains nearly all the vitamins and minerals or (2) by adding to white flour certain minerals and vitamins that are present in whole-wheat flour. Enriched *bread* also may be made in one of two ways: (1) From either type of enriched flour or (2) from white flour by the use of yeasts high in vitamins and minerals.

In general, bread that is dry enough to require chewing before it is swallowed is best for children.

Sweets.—Sugar should be used sparingly in food for children because it takes away the appetite for more important foods. If children will eat their cereal without sugar they should be encouraged to do so. Fruits, beverages, and desserts for children should be only lightly sweetened so that the true flavor of the food is still evident. Molasses, sorghum sirup, and dried fruits are the most desirable sweets for children because they contain a good deal of iron. Molasses and other sirups can be used in making cookies, sometimes in combination with oatmeal or whole wheat.

Fats.—Some fats supply energy only. The fats that contain vitamin A are the best for growing children. Butter and cream are naturally rich sources of vitamin A; some vegetable margarines have had vitamin A added in the course of manufacture. Cod-liver oil supplies not only fat, but also vitamins A and D.

Fats for children should be used to spread on bread or to flavor potatoes or vegetables.

Foods cooked in fat, or fat meats cooked at high temperatures, are not suitable foods for young children.

EATING HABITS

Eating habits have much to do with health. The child should learn early in life to eat at stated intervals and not to eat between meals. At some periods in life, such as infancy, very early childhood, and

possibly adolescence, more meals are needed, on account of the especially rapid growth that takes place at these times. It should be realized, however, that eating additional *regular* meals is quite a different thing from nibbling between meals.

A child should learn to eat as a matter of course what is set before him and to like the simple, wholesome foods that are in his diet. Coaxing and urging will not teach a child to eat, but most children with healthy appetites are ready to eat almost anything that is offered them. A child should have nothing to eat between meals that will keep him from being really hungry for his next meal.

Some children have better appetites than others, and a child may have a better appetite at one time than at another. If a child shows signs of good health and gains weight steadily and if he is eating the foods in a well-planned diet, his parents should not worry if he does not seem to want so much food as some other children. He may not need so much.

Strong likes and dislikes for certain foods are often formed so early in life that many people believe that they are inherited. Such attitudes are not inherited. As a rule they are built up through imitation of older children and grown-ups. The child who as a baby has been fed at regular intervals and who has received a variety of vegetables, fruit, and cereals during the latter part of his first year usually presents no feeding problems unless he comes in contact with people whose fussiness about food he learns to imitate.

If a child hears adults or older children talk about disliking a food, he also may learn to dislike it. A child's dislike for a single food may often be traced to the mother's dislike for it. If his parents expect him to enjoy food he usually does.

Meals should be well cooked and attractively served, for both adults and children, but it is not wise to discuss food before children, whether to praise it or to complain of it. At mealtimes when children are present older members of the family should act as if they liked everything served and as if they took it for granted that all the children liked it too.

Infancy and early childhood are critical periods in the formation of good eating habits. The keynote of success in introducing new foods into a child's diet during these years is the word "gradual." This applies not only to the addition of new types of food but to the changes in form in which the new foods are offered. The new foods are introduced, not all at once, but one by one, as the child becomes accustomed to each in turn.

The essence of habit formation can be summed up in the phrase, "repetition associated with satisfaction." A young child learns to like a new food by repeated tastes, by getting used to it. If his first taste

HOW AN ADOLESCENT BOY'S FOODS EATEN ON A SAMPLE DAY

BASIC FOODS TO INSURE PROTEINS, VITAMINS, AND MINERALS



MILK

1 quart whole milk.



FRUITS AND VEGETABLES

1 medium orange.

2 medium apples (in sauce).

3 medium potatoes.

1 cup green beans.

1 cup raw cabbage.



EGGS

1 egg.



LEAN MEAT, FISH, FOWL, OR MEAT SUBSTITUTE

1 large serving round
steak.

1 cup baked beans.



WHOLE-GRAIN CEREAL OR BREAD

$\frac{1}{3}$ cups cooked oatmeal.



COD-LIVER OIL

1 teaspoonful cod-liver
oil, in winter.



ADDITIONAL FOODS TO MEET ENERGY NEEDS AND SATISFY APPETITE



CEREALS, FLOUR, BREAD

$\frac{1}{3}$ cups boiled rice.

7 slices white bread.

$\frac{1}{2}$ cup flour (in foods).



BUTTER AND OTHER FATS

5 tablespoonfuls butter.

4 tablespoonfuls fat

(in foods).

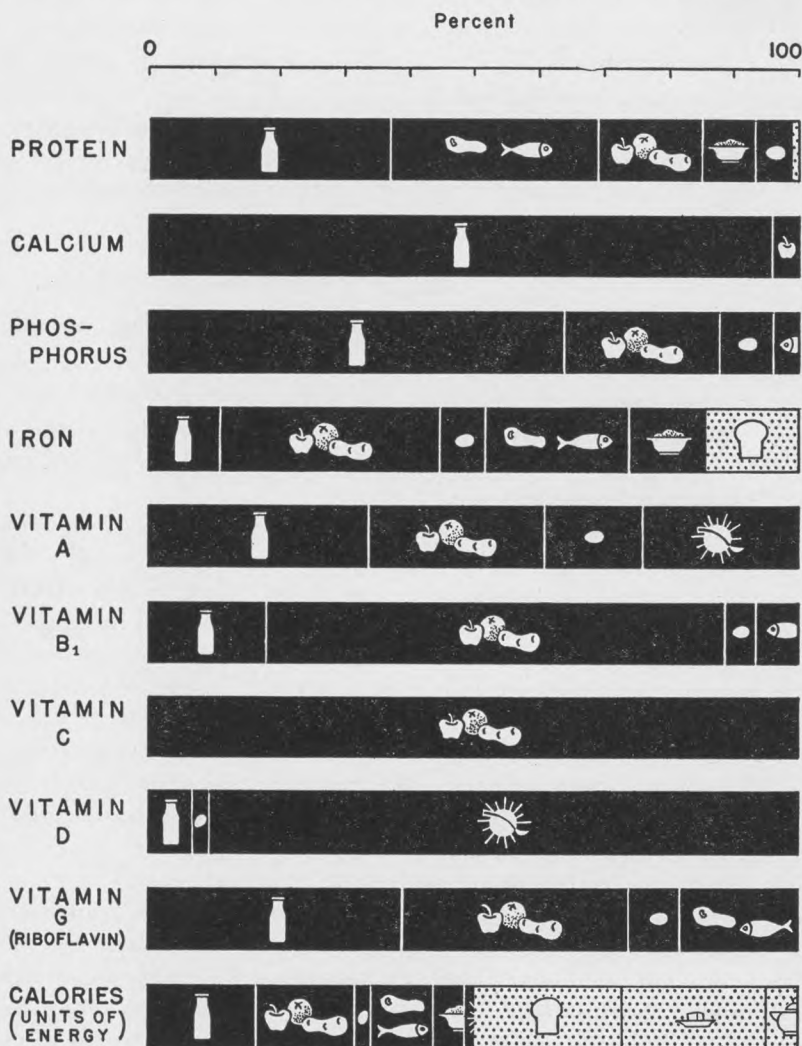


SUGAR, MOLASSES, JAM

6 tablespoonfuls gran-
ulated sugar (in
foods or added at
table).

DAILY FOOD NEEDS ARE MET

How the sample day's food meets the daily need for each dietary essential



Suggested allowance for 15-year-old boy of average size and activity.

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is attended by satisfaction—or at least by the absence of dissatisfaction—he will be more ready to try the food again another time and will eventually come to like it. If, for example, he is given a large amount of a new and strongly flavored food such as cabbage, he may build up a violent dislike for it and firmly refuse ever to taste it again. If, on the other hand, he is given a small amount, mixed perhaps with potato or other bland food, and allowed to eat as little or as much as he wants, he will willingly taste it when it is offered again and he will probably come to like it. In offering a new food the parent should be casual and unconcerned.

Establishing good food habits early gives the child a good start in life and protects him to some extent against unfavorable influences that he may encounter when he eats at school, at camp, or at other places away from home.

SLEEP AND REST

The best single test of the wholesomeness of the child's living is his sleep. If he goes to bed at night tired, but not excessively so, sleeps soundly throughout the night, and wakes in the morning refreshed and happy and alert to begin the new day's round of activities, the parents can be reasonably assured that the child's program of living is a wholesome one.

It is impossible to state exactly the amount of sleep required by children, or what the bedtime should be, for the need for sleep seems to vary with the individual. The safest rule is to set a bedtime that allows the child enough sleep, so that he awakens naturally in the morning. For a school child this natural waking time should be early enough to permit him to eat an unhurried breakfast, go to the toilet, and arrive at school in good season.

In some parts of the country the change to daylight-saving time for the summer months may postpone the child's bedtime for an hour, with the result that he sleeps late the next morning, hurries through breakfast in order to get out to play or to be in time for school, and starts the day badly.

Nothing will put a child's nutrition on the down grade more surely than will lack of sleep. His disposition becomes irritable, he is tired or restless most of the time, his appetite is fickle, his food intake inadequate, and his body undernourished. Parents must remember that the child needs plenty of sleep, whether or not he wants to go to bed, and they should see that he gets it. The best preparation for a good night's rest is a well-spent day; and as has been said previously, the best barometer of the wholesomeness of the child's day is his sleep at night.

SUNSHINE, OUTDOOR PLAY, AND EXERCISE

Children should spend as much time as possible out of doors in the fresh air and sunshine. On rainy days a porch may be used for active play. On bright sunny days in winter, even when the temperature is low, children will enjoy active play. On cold, damp, blustery days, some children enjoy being out, but others do not and are better off in a warm, well-ventilated house. In the hottest weather children should stay in the shade or indoors during the middle part of the day.

Growing children benefit by sunlight all the year round. Sunlight enables the child's body to grow properly by helping it to make the best use of the bone-building minerals in his food.

How much exercise a child should have depends on his individual needs. The thin, nervous child usually needs to be given play materials that will keep him quiet part of the time. The heavy, inactive child often needs an incentive to do more. The little child in a large family often overdoes greatly trying to keep up with the older children and should be given a chance to play less strenuously with companions of his own age. The irritable child who is spending much time indoors may be improved by getting more outdoor life.

DAILY PROGRAMS

The foundation of good health habits should be laid early in life and then should be strengthened throughout the years of growth. The health habits have to do with the fundamental daily activities of the child—eating, sleeping, playing, eliminating body wastes, and keeping the body clean and suitably clothed.

Most adults learn from experience that they are healthier, happier, and less easily tired if their lives are regular. Need for sleep and for food recur at regular intervals, and also need for elimination of wastes. Irregularity makes for discomfort and a sense of ill health. What is true of adults is even more true of children.

A daily program is a convenience for a family. It should be a guide, not a hard and fast schedule. Programs for children of various ages can be planned to fit the family program. (Sample programs are given on pp. 29, 33, and 38.)

SUPERVISION BY DOCTOR AND DENTIST

Every child should have the advantage of supervision by a doctor. The baby and the young child need complete health examinations by a doctor more frequently than does the older child, but such examinations

should be given to children of all ages at regular intervals. The parents cannot recognize many of the early signs of trouble because they are not trained to do this and because they see the child too often to realize that any change is taking place. The doctor looks at the child with a trained eye, and seeing him at regular intervals, can judge whether his color is as good as usual, whether he is gaining satisfactorily in weight and height, and whether he shows any early signs that are the forerunners of trouble.

As part of the doctor's regular health examination the child will be weighed and measured. The doctor will use all the information that he gets from examining the child before he decides whether his growth and development and his present nutritional condition are satisfactory. Steady increase in weight over a period of time is one sign of good nutrition. There is an advantage in having the same doctor see the child at the successive health examinations so that he can observe the child's progress.

At every age from 2 years on, the child's teeth should be seen every 6 months by a dentist, for examination, cleaning, and any other attention that the dentist finds necessary.

SOME CONTINUING HAZARDS TO GOOD NUTRITION

There are many hazards to good nutrition which the parent must recognize and guard against. Some of these exist at all periods of life from childhood through adolescence; others are most evident at certain ages. The continuing ones will be pointed out here; the ones peculiar to the different age groups will be considered later.

NEGLECTED TEETH

Neglected teeth are likely to result in malnutrition. If a small cavity is not filled, the tooth will decay still more, and the results of this neglect are familiar to all—ugly, broken teeth, toothaches, and gumboils. The child with a sore tooth tries not to bite on it and is likely to avoid wholesome foods that need to be chewed, or else to chew on one side of his mouth. A child who has poor, decayed, or abscessed teeth is likely to have a poor appetite and digestion.

ENLARGED OR DISEASED TONSILS AND ADENOIDS

If the tonsils and adenoids become diseased, the child may become listless and under par, his appetite finicky, and his body undernourished.

Diseased adenoids may enlarge and may prevent the child from breathing freely through his nose. If a child habitually breathes

through his mouth, especially while asleep, the parents should tell the doctor.

It is the belief of some physicians that good nutrition and the prevention of infections may be in some measure a safeguard against abnormalities of tonsils and adenoids, although even well-nourished, well-cared-for children may have such abnormalities.

COLDS AND OTHER COMMUNICABLE DISEASES

Among the most serious hazards to successful nutrition and physical well-being are the communicable diseases that are commonly contracted in childhood. When a child is coming down with a cold or some other infection, he loses his appetite and becomes finicky about his food. His parents are tempted to pamper him and to give up temporarily his normal program. Frequent upsetting of the daily routine because of illness is, alone, sufficient to make a child undernourished. Communicable diseases may in addition leave the child with some physical defect that will interfere with good nutrition for years to come.

Parents should, of course, do their utmost to prevent the child from having any one of these diseases. Every day, month, and year that the child remains free from illness, even a cold or a slight indisposition, can be chalked up to the parents' credit as another important goal safely reached. Fortunately, a program of good, wholesome living will go a long way toward helping to keep the child well.

Other measures for preventing communicable diseases are also essential. First of all, little children should be kept out of crowds, and all children should be kept away from persons with colds or other illness and those whose state of health is not known. The food and water supply should be safeguarded. Raw milk should not be given to children. Flies, mosquitoes, and vermin should be kept away from the child and his food.

Special measures also must be taken to protect the child against certain communicable diseases. For example, vaccination against smallpox and diphtheria should be done before the end of the first year. In all cases the physician should decide when these inoculations shall be done, and he may also suggest ways to help to prevent other illnesses, such as whooping cough.

To a considerable extent, then, the dangers that threaten the child from these serious foes to nutrition and health can be avoided entirely or their harmful effects modified. Regular supervision of the child by the doctor and the dentist should help to ward off these hazards or protect the child from their ill effects.

NEEDS AT VARIOUS PERIODS OF THE CHILD'S LIFE BEFORE BIRTH

During the prenatal period the baby receives his food materials directly from the mother's blood. Everything needed for building his body must come from the food the mother eats or from her own body. The mother's diet, therefore, should contain everything that both she and the baby need. It should have enough calcium and phosphorus to meet the mother's needs and to build the bones and teeth of the baby. It should have enough iron for the mother and in addition enough to build the baby's blood and to store a reserve supply in his liver for the first few months after birth. It must likewise have enough of every one of the vitamins and other essentials to protect the mother's health and to provide for the increasing needs of the baby.

If the mother's diet does not contain enough of these dietary essentials for both herself and child, she will be the first to suffer, for nature protects the baby for a while even at the expense of the mother. If the deficiency in her diet is great, the baby also will suffer.

For example, if the mother's diet does not contain the needed amounts of calcium and other bone-building materials, they will be taken from her own bones, and perhaps from her teeth, to supply the needs of the child. If the dietary deficiency in calcium and phosphorus is very great or long-continued, especially if the supply of vitamin D also is inadequate, the baby's bones cannot grow normally and he may even develop rickets before birth. Because a large part of the calcium and phosphorus that the unborn baby receives from the mother enters his body in the months just before birth and because of his rapid growth after birth a premature baby is especially likely to develop rickets.

If there is not enough iron in the mother's diet for the needs of both mother and child, the mother's supply will be used for the child and the mother will become anemic. If the amount of iron is very inadequate, the amount stored in the baby's liver, intended to last him through the first few months of life, will be smaller than it should be, and he will become anemic at an early age. As with calcium and phosphorus, a large part of the iron that the unborn baby receives from the mother enters his body in the months just before birth, and therefore a baby born prematurely is especially likely to develop anemia.

If the iodine supply in the mother's diet is low, the mother's thyroid gland may enlarge and she may develop other symptoms of goiter. If the iodine supply is extremely low the baby may also be affected.

If any of the vitamins are lacking in the mother's diet or are present in too small amounts the mother will show signs of the deficiency, and the baby may fail to grow and thrive. He may even develop symptoms of one of the deficiency diseases mentioned on pages 5-6.

The diet of the expectant mother should be adequate in all respects both for the protection of the mother herself and of her baby. Another consideration is that a wholly adequate diet during pregnancy increases the mother's chances of being able to nurse her baby, and breast feeding is the most important factor in good nutrition during the first year.

How can a mother be sure that she is getting all she needs and enough for the baby too? She can do it by making every effort to eat the foods that supply the dietary essentials. This does not mean that she should eat a large amount of food, but that she should eat the right kind. The needs of both mother and child should be supplied if the mother includes the following foods in her diet every day in the amounts stated:

A quart of milk. This may be used in cooking foods as well as for drinking. Fresh milk should be pasteurized or boiled. Evaporated or dried milk may be used.

An egg.

A serving of meat or fish.

A raw vegetable, or a vegetable or fruit salad.

A cooked vegetable, one or more servings. This should frequently be a green leafy vegetable or a yellow one.

An orange, half a grapefruit, two or more tomatoes, or some other fruit or vegetable rich in vitamin C. (Two or more servings of these are better.)

Two or more servings of whole-grain or enriched bread or cereal.

Other foods, such as potatoes, bread and butter, and dried or fresh fruits, to complete her meals.

In addition to these specific foods the expectant mother needs a good source of vitamin D. This may be cod-liver oil or other sources, as directed by the doctor. Iodine may also be needed; it should be taken only under the direction of a physician.

The doctor will tell the mother how much of these foods she should eat daily. Overeating is undesirable.

The diet of the mother is the factor in prenatal life most directly related to the nutrition of the child, but all other factors also should be safeguarded. The expectant mother therefore should be under the care of a doctor and should carry out faithfully all his suggestions not only with regard to diet, but with regard to exercise, sleep, rest, and other matters of hygiene.

INFANCY

If a child has had the right start in prenatal life he should be born well nourished. The job ahead is to keep him so.

Food and eating habits.

Since the health and development of the child are closely related to the way he is fed during his first year, a doctor should supervise his feeding.

Breast feeding.—The best way of making sure that a baby is well nourished is through breast feeding. It is well known that cow's milk is best for the young calf, goat's milk for the young kid, and human milk for the newborn infant. It is the right of every baby, therefore, to be fed for the first few months on his own mother's milk, if this is at all possible. No baby should be fully weaned before the end of the first 6 months of life unless there is a very good reason, as it is during this period of rapid growth that digestive disturbances are most serious. Most doctors believe, indeed, that no method of artificial feeding is quite so good as breast feeding. Experience has shown that breast feeding gives a baby a better chance for life and for steady and normal growth. More mothers could nurse their babies if they realized its importance and would do the things that help to make breast feeding possible. These things are as follows:

Before the birth of the baby the mother should—

1. Make up her mind that the baby is to be breast-fed.
2. Select a doctor who believes in breast feeding and who will help her to prepare for it.
3. Eat the type of diet outlined on page 25 as approved by her doctor.

After the birth of the baby the mother should—

1. Continue her determination that the baby is to be breast-fed.
2. Continue following her doctor's directions.
3. Eat—in somewhat larger quantities—the same good foods that were in her diet before the baby was born, and drink plenty of fluids.
4. Put the baby to the breast at regular intervals. The best stimulus to milk secretion is regularity and completeness in emptying the breasts.
5. Keep on trying to nurse the baby, even if the milk does not come at once, giving him meanwhile other milk feeding, as ordered by the doctor. The milk may come in sufficient quantities after the mother is up and about the house.
6. Have plenty of sleep and rest, and so far as possible keep calm and unworried.

When a baby is breast-fed, he is still dependent upon his mother's food. If she is to produce milk enough for the baby without depleting her own body stores, she must eat the proper foods. It is fortunate that the same diet that she needed in pregnancy is still what she needs in the period of lactation. She will probably need larger quantities of some foods, as it requires considerable amounts of all food materials to enable the mother to supply the amount of milk—a pint to a quart a day—that she will produce as the child grows older and needs it. Fortunately the appetite of the nursing mother is usually good, and if she will satisfy it with wholesome, simply prepared foods, she will probably have enough of the food essentials to protect her own body and to supply milk for the baby.

Artificial feeding.—When weaning time comes, at 7 or 8 months, or sooner if breast feeding is absolutely out of the question, the baby must be artificially fed, and at this time a doctor's supervision is especially needed. The most important problems in connection with artificial feeding are: (1) The choice of a good milk supply; (2) the planning of the milk mixture so that it may be adequate in quantity and quality; (3) the preparation of the milk mixture so that it may be safe and digestible.

Clean fresh milk that has been pasteurized, evaporated milk, and dried milk are all satisfactory types of milk for babies. Cow's milk is most commonly used, but in some families goat's milk is used. The doctor should decide upon the ingredients of the feeding and upon the amounts to be given to the baby. It is the consensus of opinion among child specialists today that any milk or milk mixture fed to a baby should be boiled to render it absolutely safe and at the same time more digestible. If evaporated milk is used, however, it need not be boiled in the home, as such milk has been made safe and digestible by the process of manufacture.

Additional foods besides milk.—Whether the baby is breast-fed or artificially-fed, other foods besides milk are added to the diet during the first year to provide the food essentials that milk—even breast milk—does not supply in adequate amounts. These foods should be added gradually. Orange juice (or other good source of vitamin C) and cod-liver oil (or other good source of vitamin D) should be begun at the end of the second week of life. Then, one by one, at different times during the year, cereals, egg yolk, green and yellow vegetables, fruits, potatoes, and dried bread should be added to the diet.

Although the doctor will give special instructions as to when and how additional foods should be introduced, it is helpful for the mother to know the 1-year goal in respect to foods and the general plan for reaching it. For example, at the beginning of the year the child is fed on breast milk or a cow's-milk mixture; toward the end of the

year his food list will include cow's milk, egg yolk or even whole egg, cereals of several kinds, vegetables and fruits, and potatoes and bread. He starts out on five or six feedings a day, or occasionally seven; by the end of the year he will be having three meals a day, or possibly four.

These changes should all be made gradually. New foods should be introduced one after the other as the child becomes used to each in turn. Fruits and vegetables should be given first as juices, then as purees, and later merely mashed. New foods should be given at first in small amounts so that the child may become used to the new flavors and textures. In similar manner, the number of feedings is gradually decreased, and the baby learns to drink from a cup instead of a bottle. When this program is properly carried out, the baby "grows up" naturally and arrives easily at the goal set for the year-old child.

Good eating habits should be established from the start. As a beginning in learning to eat regular meals the baby learns early in life to expect his food at regular times. If the mother gives him his food at the times decided on, the average baby will learn very early in life to wake regularly for food and to sleep most of the time between feedings.

Sleep and rest.

Life during the first year should be serene and restful. Many a baby has been started on the road to malnutrition by the fatigue that comes from lack of sleep or from overstimulation. Babies differ in the amount of sleep they need, but every baby should have plenty of refreshing sleep at regular hours. A very young baby sleeps most of the time. His hours of sleep gradually decrease, but at the end of the first year he still needs about 12 hours' sleep at night, besides daytime naps.

A baby should not be taken out at night nor wakened from sleep to be shown to visitors. The parents should talk to him every day and play with him, but the play should not be exciting. Especially in the late afternoon play should be quiet and gentle; otherwise the baby will be overexcited and his night rest may be disturbed.

Sunshine.

Sunshine helps the baby to grow normally. When the weather permits, sun baths may be taken out of doors.

Exercise.

The baby should have plenty of opportunity for exercising his growing muscles. The normal baby exercises constantly when awake, crying, kicking, tossing his arms about, stretching, and, later, learning to creep. These movements should not be restricted by tight clothing or bedclothing.

Daily programs.

Good nutrition in a baby depends largely on his health habits; these are founded on regularity in eating, sleeping, and elimination. A daily program should be planned in harmony with the family arrangements. Whatever plan is chosen should be followed with reasonable closeness as a guide, but not as a rigid rule. A sample daily program for a very young baby is as follows:

A SAMPLE PROGRAM FOR A BABY LESS THAN 4 MONTHS OF AGE

- 6 a. m.----- **Feeding.** Breast or bottle feeding.
Sleep or play, alone in crib.
- 9:30 a. m.----- Cod-liver oil, or other source of vitamin D, and orange juice.
Bath. Undress the baby in time to allow for exercise and play before bath.
- 10 a. m.----- **Feeding.** Breast or bottle feeding.
Nap, out of doors if weather permits.
Drink of water after nap. Put baby where he can play safely.
Sun bath if weather permits. (In very hot weather give sun bath before morning bath or after afternoon nap.)
- 2 p. m.----- **Feeding.** Breast or bottle feeding.
Nap, out of doors if weather permits.
Cod-liver oil or other source of vitamin D, and orange juice, when baby wakens from nap. Put baby where he can play safely. Offer water at some time during afternoon.
- 5:45 p. m.----- Prepare for night. Allow time for exercise and play.
- 6 p. m.----- **Feeding.** Breast or bottle feeding.
Bed, with windows and lights adjusted for night.
- 10 p. m.----- **Feeding.** Breast or bottle feeding. (If baby does not waken this feeding may be omitted.)
- 2 a. m.----- **Feeding.** Before the end of the second month most babies give up this feeding. Some give it up soon after birth.

Some hazards to nutrition in infancy.

Because a child grows more rapidly during the first year of his life than at any other period, he shows any lack of adequate food much more readily than an older child. Moreover, food that is wholly adequate in nutritive value may be a carrier of disease germs. Diarrhea and other infections of the digestive tract in babies have been reduced through the action of communities that safeguard the milk and water supplied to the household, but the mother must continue to see that all food is free from disease germs when it is fed to the baby. In the first 7 or 8 months of life, the chances that the infant will acquire a communicable disease from his food are reduced by breast feeding, and, after weaning, by boiling his milk.

Special measures also are needed to prevent diseases in a baby. The mother should—

1. Take the baby regularly to the doctor.
2. Have him immunized against diphtheria and vaccinated against smallpox, and, if the doctor advises it, have him vaccinated against whooping cough.
3. Keep him away from anyone who is ill. A person who has "only a cold" or "just a cough" may infect a baby and make him seriously ill. A baby should never be taken into crowded places, such as stores or theaters.
4. Keep flies and other insects away from him and from his food.
5. Boil his milk and drinking water and, unless the doctor orders otherwise, cook all his other food except fruit juices and cod-liver oil.
6. Wash the hands before feeding the baby.

EARLY CHILDHOOD

To have brought a child to his first birthday in a state of good nutrition, with good health habits, is a real achievement. The parents' task is now to keep him on the road to good nutrition in the important period between babyhood and school life.

Between the first and sixth birthdays the child develops rapidly and forms many lifetime habits. At these ages he needs as much thought on the part of the parents as he did when he was a baby, perhaps even more.

Food and eating habits.

The gradual extension of the diet begun in infancy is continued during the second year. Cereals, vegetables, and fruits are given in greater variety; meat and fish are begun during the second year; a whole egg a day is now included; and some of the milk, cereals, and egg may be used in simple desserts, slightly sweetened. Throughout the second year all milk should be boiled for safety. After the child has teeth, vegetables and fruits need no longer be strained or mashed. Cod-liver oil should be continued.

These same foods are continued throughout the preschool period, indeed throughout life. The increased energy needs of the child as he grows older are provided for by larger amounts of cereals, bread, butter, potatoes, and other foods which his appetite demands. His added need for proteins, minerals, and vitamins is met by more and larger servings of fruit, vegetables, eggs, meat, and fish.

A sample day's meals including these foods is as follows (there are of course many other combinations of food that will carry out the food plan equally well):

SAMPLE MEALS FOR A CHILD ABOUT 4 YEARS OF AGE

BREAKFAST

Orange.
Oatmeal ($\frac{1}{2}$ cup) with top milk ($\frac{1}{3}$ cup).
Whole-wheat toast (2 thin slices) with butter (2 teaspoonfuls).
Bacon (1 slice).
Milk ($\frac{1}{2}$ pint).

DINNER

Beef ball (1 small).
Baked potato (1 small) with butter (1 teaspoonful).
Green beans ($\frac{1}{4}$ cup) with butter ($\frac{1}{2}$ teaspoonful).
Custard ($\frac{1}{3}$ cup).
Milk ($\frac{1}{2}$ pint).

SUPPER

Poached egg.
Carrots ($\frac{1}{4}$ cup) with butter ($\frac{1}{2}$ teaspoonful).
Whole-wheat bread (1 slice) with butter (1 teaspoonful).
Apple sauce ($\frac{1}{2}$ cup) with top milk (2 tablespoonfuls).
Milk ($\frac{1}{2}$ pint).

A child who has been fed at regular intervals during babyhood expects meals at regular intervals. He should have three meals a day at regular hours. If he seems to need extra food it should be given as a regular meal, as a mid-morning or mid-afternoon lunch, but there should be no nibbling or "piecing" between meals. He needs to have plenty of water to drink; if water is available his own thirst will indicate how much he needs.

During early childhood foods should be prepared in simple ways. Potatoes may be boiled, mashed, baked, or creamed, or made into a potato-milk soup. Vegetables may be buttered or creamed; fruits and desserts should be only mildly sweetened; and elaborate, rich dishes should be avoided. The diet can, however, have sufficient variety, even with these simple methods of preparation, to make the meals interesting and palatable. Young children, moreover, do not need so much change as many mothers believe; they will eat the same foods happily day after day if adults do not suggest the need for variety.

Sleep and rest.

The young child's bedtime should be regular and early—not later than 7 o'clock—and he should "sleep the clock round," as from 6 p. m. to 6 a. m., or from 7 p. m. to 7 a. m. In addition he should have a regular daytime rest and relaxation in a quiet room, even though he may not always fall asleep when he lies down.

Children seldom say that they are tired. They show fatigue by becoming cross or restless oftener than by wanting to sit or to lie down. The child under 3 years who is very active in his play is often better off if he spends at least part of his outdoor time quietly.

Sunshine, outdoor play, and exercise.

Every young child should spend as much time as possible out of doors—3 to 4 hours in winter and 5 to 6 hours in summer, except on very windy, dry days when much dust is flying, or on very cold and overcast or stormy days.

The child who is not yet 2 years old needs plenty of direct sunlight even more than other children of preschool age, for the child under 2 is at an age when he may still have rickets. In spring, summer, and fall the child who plays outdoors every sunny day, wearing a sun suit part of the time, will get plenty of sunshine. In winter, when more of the body must be covered and the sun is less strong, he should play in the sun whenever the weather permits.

The child's day should be busy and interesting but not overstimulating. He should have plenty of opportunities for quiet play and for free, active play suited to his age. A sandbox may keep a child playing happily in the sunshine if he has such simple things as spoons, pails, cans, and small wagons. A play pen large enough to allow the child considerable freedom of movement will keep him safe while playing with such toys as blocks. Of course, a child needs to walk and to run, to climb, to swing, to pull, to push, to dig, and to throw. To do all these things he needs a yard to play in, and if possible he should have some simple, home-made play apparatus, such as a seesaw, climbing bars, and a slide.

A little child should learn to enjoy playing alone, but he also needs to play part of the time with children of his own age, as well as to have companionship with adults. Building a house with blocks, swinging on horizontal bars, a game of tag, a romp with the dog, and a walk with father around the block or a trip with mother to the neighborhood park—all these may well be part of a child's busy, well-ordered day.

Daily programs.

A program of living suitable for a child can be put into effect only if he builds up a series of desirable habits and attitudes. Even when a good beginning has been made during babyhood much remains to be done in the years from 1 to 6. The parents should continue to teach the child to form good health habits; that is, to teach him to do habitually and without conscious effort the things that make for good health habits. The habits that have to do with the fundamental daily activities of the child—eating, sleeping, playing, and eliminating—should be learned in the first 3 or 4 years of life. Once learned they may last a lifetime.

Regularity is a great help in habit building, but at this age, as in infancy, regularity should not mean rigidity. In planning a routine for the young child the family life should be considered, for it is not desirable to upset the plans of the family more than is necessary for the

health of the children. Regularity in certain things, however, is of great benefit, such as the daytime nap, outdoor play, meals, bedtime, and visits to the toilet. A regular schedule will benefit the family in the end.

Different plans suit the needs of different families. Whatever plan is made should be followed with reasonable closeness as a guide but not as a rigid rule. A sample schedule is as follows:

A SAMPLE PROGRAM FOR A CHILD ABOUT 4 YEARS OLD

7:30 a. m.-----	Rise. Toilet. Bath. Brush teeth. Dress.
8 a. m.-----	Breakfast. Toilet for bowel movement. Wash hands. Out of doors as soon after breakfast as weather permits. Play in sun when possible.
11:45 a. m.-----	Toilet. Wash hands and face.
12 noon.-----	Dinner.
12:30 p. m.-----	Undress for nap. Toilet. Wash hands. Nap.
2:30 p. m.-----	Toilet. Wash hands. Dress. Milk or fruit if needed. Out of doors as long as weather permits. Play in sun when possible.
4:45 p. m.-----	Toilet. Wash hands.
5 p. m.-----	Supper. Undress. Toilet. Wash. Brush teeth.
6 p. m.-----	Bed. Lights out, windows open, door shut.

Some hazards to nutrition in early childhood.

The road to good nutrition for the years from 1 to 6 is one that should be possible to follow without much difficulty. There are, however, a number of byways leading away from the main road, and the parents should be aware of them in advance and strive to avoid them.

Refusing milk or other necessary food.—Even though a child has good food habits up to the age of 1 or 2 years, he may at this time or soon after suddenly seem to take a dislike to milk or some other needed food. If this situation is more than temporary its cause should be sought. It may be that the child has been given highly flavored food, such as sweets, meats, and rich dishes, so that his taste is blunted for bland foods. If this is the case a return to an extremely simple, bland, but well-rounded diet will often effect a prompt cure. If he has been eating sweets or highly flavored foods these should be given up. No point should be made of the change. It should just happen naturally that bland foods are the only ones available. It is surprising how good just plain bread and butter and milk will taste when the child is hungry and his taste undulled by high flavor.

The nibbling or "piecing" habit.—A young child easily falls into the habit of "piecing" or nibbling. He is about the house where food is available, and it is easy to give him a slice of bread, a cookie, or a cracker, at any time he asks for it, or to allow him free access to a box of crackers or a cookie jar. It is not uncommon to see children who

keep up this constant "piecing" all day long. The effect usually is that it takes the edge off the appetite, so that the child is not hungry for his regular meals. The food he eats between meals is seldom what he needs most, and it does not make up for the essential foods he should normally eat at mealtime.

The surest way to avoid "piecing" is to hold to the rule that the child eats only when seated at the table for a regular meal. If he seems to need four or even five meals instead of three, he may have them, but he should sit at the table to eat them, and the foods eaten at this extra meal should be suitable to his age.

Candy, ice cream, sweets, soft drinks, and other extra foods are often responsible for upsetting the child's nutrition at the preschool age. These foods are not essential, for they provide nothing that cannot be better supplied by the simple foods that have been listed previously as needed in the young child's diet. Moreover, when eaten between meals, they usually spoil the appetite for the foods that he does need. No objection can be raised to a child's eating a small piece of candy occasionally at the end of a meal, nor to a plain ice cream as dessert. But the child who is constantly nibbling at sweets, who must have some candy or ice cream every time he goes with his mother to the grocery store, is likely to be thin and poorly nourished, and to have decayed teeth and other marks of malnutrition. Candy should be eaten only occasionally, and should not take the place of the essential foods.

Interruption of good sleeping habits.—When the child is about 3 or 4 years old, difficulty may arise in getting him to take his daytime nap; he may be unwilling to go to bed at night, and he may lie awake after he does go. When this happens, the parents should look for the cause of the trouble. Have they been lax in getting him to bed at the proper hour? Has his play before bedtime been too stimulating? Is the child aware that pleasant things happen in the household while he is asleep, so that he does not wish to go to bed lest he miss something? Are the parents expecting him to sleep too long? Or have they acted as though the child's daytime rest period were no longer necessary and an early bedtime unimportant? If these questions are honestly answered, the remedy for the situation is usually apparent. Whatever is found to be the cause should be corrected, for lack of sleep is one of the most common causes of poor nutrition.

THE SCHOOL AGE

If a child reaches school age in a well-nourished condition his parents can congratulate themselves on having given him the right start on the road to good nutrition. Their vigilance must not be relaxed, however, for school life brings about special needs and hazards.

Food and eating habits.

The child of early school age.—The same foods that were eaten in early childhood should continue to be the basis of the diet during the school age. The quantities, however, should be increased to take care of the child's greater needs as he grows older, and some of the foods that are unsuitable for young children may be added to the diet of older children.

Most school children are able to digest almost any food that is in the family diet. The school child may be given not only a greater variety of foods, but also foods prepared in different ways. It should be emphasized, however, that except for an increase in quantity, changes in the diet are not essential merely because the child grows older. Excellent nutrition can be maintained throughout the growing period upon the same foods that are recommended for the young child. Moreover, if a school child shows a tendency to lose his appetite for any of the essential foods, a temporary return to the simple, bland diet of early childhood may be needed.

The principal change in meals that takes place when a child goes to school is caused by the fact that many children eat the noon meal away from home. Whether the noon meal is eaten at home or away from home it should be fitted into the food plan for the day.

The following sample day's food plan provides for lunch whether served at home, bought and served at school, or brought from home:

A SAMPLE DAY'S MEALS FOR A CHILD ABOUT 10 YEARS OLD

BREAKFAST

Tomato juice ($\frac{3}{4}$ cup).
 Hot whole-wheat cereal ($\frac{3}{8}$ cup) with top milk ($\frac{1}{2}$ cup).
 Toast (2 slices) with butter (2 teaspoonfuls).
 Milk ($\frac{1}{2}$ pint).

LUNCH

(If served at school or at home)

Creamed eggs ($\frac{3}{4}$ cup).
 Green beans ($\frac{1}{2}$ cup) with butter (1 teaspoonful).
 Oatmeal muffins (2) with butter (2 teaspoonfuls).
 Milk ($\frac{1}{2}$ cup).

(If brought from home)

Sandwich—peanut butter and raw carrot on buttered dark or enriched bread.
 Sandwich—chopped dried apricots on buttered dark or enriched bread.

Supplemented by—

Orange.
 Milk soup (1 cup) or cocoa (1 cup), served at school.

DINNER

Meat loaf (1 serving).
Scalloped potatoes ($\frac{3}{8}$ cup).
Cole slaw with red and green peppers ($\frac{1}{2}$ cup).
Whole-wheat bread or enriched bread (2 slices) with butter (2
teaspoonfuls).
Apple sauce ($\frac{1}{2}$ cup).
Molasses cookies—2 thin.
Milk ($\frac{1}{2}$ pint).

The adolescent.—At adolescence the boy and girl begin to gain in height and weight very rapidly and they are likely to be extremely active. They may continue to eat the same types of food eaten by younger children, but they should eat considerably larger quantities. Boys of this age are "always hungry," and if plenty of food is available they are likely to eat all they need. Girls, however, sometimes have finicky appetites and may fail to get enough of the proper kinds of food.

The chief dietary problem for parents of adolescents is to see that enough food is eaten to meet the greatly increased energy needs. An adolescent boy may be growing so fast that he needs actually more than his father; a girl, more than her mother.

Although the adolescent's need for food is great, a boy or girl of this age may not be able to eat enough food to fulfill the energy needs unless foods that are concentrated sources of energy are eaten in liberal amounts, such as butter, cheese, cream, bacon, cookies, peanut butter, jelly and jam, baked beans, macaroni and cheese, ice cream, and rice pudding. Such foods may, in fact, be allowed almost without restriction, provided, of course, that they are eaten in addition to—not in place of—the essential foods—milk, eggs, vegetables, fruit, potatoes, meat, and whole-grain or enriched bread or cereals, which are needed to supply minerals, proteins, and vitamins, in adequate amounts.

Besides the three regular meals a day, additional food, such as an after-school lunch, is likely to be needed in the adolescent period. If the after-school lunch is followed by outdoor activity, and if the appetite for the evening meal is not diminished, parents may be sure that the additional food is beneficial. If the full amounts given on page 37 are eaten in three meals, no additional meal will ordinarily be needed.

The day's meals for a very active boy 15 or 16 years of age may be as follows:

A SAMPLE DAY'S MEALS FOR AN ADOLESCENT BOY

BREAKFAST

Orange.

Shredded wheat with top milk ($\frac{1}{2}$ cup).

Muffins (3) with butter (2 tablespoonfuls) and marmalade (2 tablespoonfuls).

Eggs (2).

Bacon (3 slices).

Cocoa (2 cups).

LUNCH ¹

Macaroni and cheese (2 large servings).

Sliced tomatoes (2) with mayonnaise (1 tablespoonful).

Whole-wheat bread (2 medium slices) with butter (1 tablespoonful).

Baked apple (1 large) with sugar (1 tablespoonful) and cream ($\frac{1}{4}$ cup).

Cookies (2 large).

Milk ($\frac{1}{2}$ pint).

DINNER

Pot roast of beef (large serving).

Mashed potatoes ($1\frac{1}{2}$ cups) with gravy ($\frac{1}{2}$ cup).

Cabbage (1 cup) with butter (2 teaspoonfuls).

Bread (2 medium slices) with butter (1 tablespoonful).

Milk ($\frac{1}{2}$ pint).

Rice-milk pudding (2 servings).

For girls or for younger boys the amounts of the different foods should be smaller.

Daily programs.

A wholesome, well-balanced program of school work, sleep and rest, play, and other activities should be established. There can, of course, be no one daily program that will fulfill the needs of every school child. The program given here merely suggests approximate hours for the various activities of the day, as follows:

¹ If lunch is carried to school by a boy of this age it may consist of the same kind of foods suggested for the 10-year-old child (p. 35), but in larger quantities.

A SUGGESTED DAY'S PROGRAM FOR A CHILD ABOUT 10 YEARS OF AGE

7 a. m.-----	Rise. Toilet. Bath. Brush teeth. Dress.
7:30 a. m.-----	Breakfast. Toilet for bowel movement. Wash hands. Brush teeth. A few chores.
8:15 a. m.-----	Go to school. Arrive in plenty of time to greet friends, help with school chores, and so forth.
8:45 a. m.-----	School.
10 a. m.-----	Recess out of doors.
10:15 a. m.-----	School.
12 noon-----	Lunch time. In lunchroom about 20 minutes. Rest of time, about 50-55 minutes, out of doors.
1:15 p. m.-----	School.
2:30 p. m.-----	Recess out of doors.
2:45 p. m.-----	School.
3:30 p. m.-----	Play or other wholesome activity, largely out of doors.
5:30 p. m.-----	Wash hands and face. Help set table, and so forth.
6 p. m.-----	Dinner; leisurely meal with family.
6:45 p. m.-----	Help with dinner dishes. Rest of time free for reading, conversation, handicraft, music practice, and so forth.
8 p. m.-----	Toilet. Wash. Brush teeth. Bed.

(Saturday and Sunday programs can allow more time for playing outdoors, helping parents, going on tramps to the woods, collecting or other hobbies, and so forth.)

Some hazards to nutrition that exist throughout the school age.

Most of the hazards to nutrition that exist in early childhood continue in the school age, and others arise when the child enters school.

Inadequate breakfasts.—One of the most serious hazards of the school age is the tendency to cut down on breakfast. This is often due to the feeling of hurry and anxiety that possesses most children in the morning. This feeling may be attributed to late rising, failure of the mother to have breakfast ready in time, and the fear of tardiness. The child goes to bed late, arises late, and must hurry to get to school on time. He has barely time to snatch a hasty bite before he dashes off—perhaps to catch a school bus traveling on a fixed schedule. Even when there really is time to eat, the fear of being late may take away his appetite. The effect in either case is to reduce the amount of food that the child eats at breakfast. This usually reduces also the total amount of food for the day, for children rarely eat enough at the other two meals to make up the deficit. The child's body may thus have to go without an appreciable amount of the energy food that he needs. If he forms the habit of hurrying through breakfast he may become thin and undernourished.

Prevention of this situation should be a joint problem of parents and school. The parents should see to it that the child's bedtime is regular and early enough to permit him to have sufficient sleep by the normal rising time in the morning. The rising time should be early enough to allow ample time before breakfast for washing, dress-

ing, and going to the toilet. The breakfast time should be regular, and the meal should be ready early enough to allow the child time to eat without hurrying, to brush the teeth and have a bowel movement after breakfast, and to get to school well before school opens.

Young children have little realization of the time required to do the various things that are necessary, and so they may feel anxiety even without cause. The parents, through maintaining the well-organized morning routine described in the preceding paragraph, should develop in the child a feeling of assurance that there is plenty of time for all the necessary things. They should then keep faith with the child by seeing to it that he always gets to school in plenty of time.

The teachers should cooperate with the parents in their efforts to have the child eat a good breakfast. All talk about tardiness is out of place in the lowest grades. The responsibility for getting the young child to school in time should be borne by the parents, and the matter should be worked out by parents and teachers in conference.

As the child grows older he should, of course, take more and more responsibility for punctuality, but older children also need calm parental supervision in the morning before school. An adolescent, especially, needs help from his parents in planning this time successfully. His need for plenty of food makes it especially important that he get a good breakfast. Unless his bedtime the night before was early enough to permit him to get enough sleep he is likely to be difficult to rouse in the morning and to be sleepy, irritable, and slow in getting ready for school. If such a child is to get an adequate breakfast, it is obviously the parents' duty to see that he gets to bed early.

When the bedtime and the morning routine have been well established, there should be no real difficulty about breakfast. If there is, then the rule that the child must sit at the table a certain time may need to be enforced.

Inadequate lunches.—The noon lunch of the school child is also likely to be inadequate. If children go home for lunch the feeling of hurry and anxiety may be largely responsible for this inadequacy. The lunch period is usually short, and the fear of being late affects the child's appetite, as does also the desire to get back to the school yard to play. He rushes in, eats enough food to dull his most urgent hunger pangs, and dashes off.

The problem of an adequate lunch is again a joint problem of parents and school authorities. If children go home for lunch enough time should be granted by the school to allow ample time for eating. The sense of hurry and anxiety should be avoided by some such means as was suggested with regard to breakfast.

As a rule children who live far from school either carry their lunches to school or buy them at the school cafeteria or elsewhere. Children who bring lunch, as well as those who buy it at school, should be supervised by the school authorities at lunch time.

If the child carries his lunch to school, the mother, of course, should plan the meal as carefully as she plans his breakfast and dinner, and when possible the child's lunch should be supplemented by one warm dish at school.

Lunches bought at school can be both adequate and satisfying if the school lunchroom is under proper supervision. Without proper supervision the lunches are likely to be unbalanced, and the essential foods are likely to be left uneaten in favor of cakes and other sweets. Although good lunches are usually available in school cafeterias, the child left to his own devices may avoid the familiar foods he eats at home and choose those he regards as luxuries, especially sweets. He may save some of his lunch money to buy other things that he wants. The result is that his lunches are too small in amount and are lacking in the essential foods. When such lunches are combined with inadequate breakfasts, as they often are, malnutrition is the inevitable result.

The lunch eaten at school should be in charge of a person who is trained in child feeding and child psychology as well as in lunchroom management and who is truly interested in the welfare of the children. The food served should be palatable, attractive, and suited to the children's needs. A "plate lunch" should be served, especially to young children, with occasional choice allowed between foods of equal food value. If cafeteria service is provided, the number of foods offered should be small and the foods arranged on the counter in such order as to favor good selection.

Educational supervision should be maintained, and no child should be allowed past the checker's desk with a lunch that does not meet the minimum essentials of adequacy. When the child eats a lunch served at school, it is the school's responsibility to see that the meal selected is fully adequate. Parents and school authorities should confer regarding the type of lunch that the children need and the price that can be afforded.

The candy habit—a special hazard for children of early school age.—Even though the parents have succeeded in keeping the child free from the candy habit in the preschool period, they face the problem anew when he enters school. Temptation meets him on every hand. Other children have money for candy, and it may be sold in the school lunchroom or in the school corridors as a money-raising device, at nearby stores, or by street vendors at the schoolyard gate. The child would scarcely be human who did not succumb. Even if 5 or 6 years

of not eating much concentrated sweet food have kept him from acquiring the candy habit, he soon develops this habit because of his natural desire to be like the other children. The result may be that he ceases to enjoy the bland foods in his normal diet, he eats less of these foods, and if the candy habit continues he may become undernourished.

The best slogan for the prevention of the candy habit is, "Out of sight, out of mind." Parents and teachers should unite to keep temptation out of the children's way—to banish candy from the school lunchroom, to prohibit the sale of candy on the school premises, to keep vendors away from the school gate, and if possible to regulate the sale of candy to children at local stores. This should be done quietly, without stressing the idea that something is being denied the children. When these steps are being taken special attention should be given to providing suitable substitutes. In the lunchroom some new and especially attractive desserts should make their appearance. Fruits such as apples, oranges, pears, bananas, figs, and dates should be sold at low prices.

Children should be taught the proper place of sweets in the diet. The facts to be taught about candy may be summed up as follows: Candy is not essential in the child's diet. It furnishes energy to the body but little else. It is primarily a flavor food and may be used in moderation for this purpose, provided it does not in any way reduce the consumption of the basic foods—milk, green and yellow vegetables, fruit, eggs, meat, potatoes, whole-grain cereals and bread—which are essential for good nutrition. The best rule for both parents and teachers to keep in mind is that the less candy the child eats, the better he is likely to be physically, especially in respect to his teeth.

Too little sleep: Overfatigue.—The need for sleep decreases as the small child grows older, but there is danger of a too rapid let-down when he reaches school age. The nap is given up as the child grows older; and the home work required by most schools, the child's desire to stay up to play or to listen to the radio, and the parents' growing laxness in respect to his daily program are all factors that tend to keep him up beyond his normal bedtime. His sleep may be cut short nightly by 1 to 2 hours or more, and he may become chronically fatigued and irritable. This should not be allowed to happen. After the child enters school a regular early bedtime, determined largely by the opening hour of school in the morning, should be strictly enforced. This bedtime should be early enough to allow the child to get a full night's sleep, with ample time for breakfast and the morning routine.

On account of the rapidity of their growth at the teen ages, the older boy and girl may need even more sleep than the younger school

child, and if they do not get it many boys and girls may be sleepy and tired much of the time and unable to concentrate on their lessons. Parents should try to see that these older boys and girls get sleep enough for their needs.

Inadequate outdoor play and exercise.—The long hours of play out of doors that were possible for the preschool child are of necessity reduced when the child goes to school. Five or six of the best hours for outdoor play are now spent in the schoolroom, and these are so spread over the day that the only time for an extended period out of doors is after school closes in the afternoon. If the short time allowed for recesses and the time spent walking to and from school mornings and at noon are added to this there may be a total of not more than 3 to 4 hours of outdoor exercise.

Unless parents and teachers are on guard and work together to keep even this small amount of time from being reduced, the child's comparatively short outdoor time may be cut down. After-school time out of doors also may be shortened by such indoor activities as home study and music lessons. Study of the daily schedules of many children has shown that on school days the outdoor playtime of large numbers of children is almost totally eliminated in these various ways. Few children can stand this abnormal program without showing the results in some form of physical impairment.

The necessity for plenty of time for outdoor play for school children should be recognized by parents and school authorities, and vigorous efforts should be made to prevent curtailment of this time. If school children are to get sufficient outdoor exercise and play, most of the time after school should be spent out of doors, as well as most of Saturday and Sunday. Time spent on such activities as music lessons should be limited, so that the child will not lose too much of his outdoor time. The child himself should be influenced to play out of doors rather than indoors at such odd bits of time as recess and the time before and after lunch.

At the high-school age the time spent by the boy or girl outdoors tends to be reduced by many indoor activities, such as increased home study and the many indoor recreational activities that are incidental to high-school life. It will be advantageous to the health of these young people if the parents and the school authorities encourage the boys and girls to spend most of their recreation time out of doors.

Special hazards to nutrition in the teen ages.

Lack of provision for the adolescent's special nutritional needs.—When the child enters the adolescent stage his growth speeds up and he needs much more food and sleep than he did before he reached this stage. Many parents do not realize this, and as a result teen-age boys and girls are likely to be both hungry and tired much of the time.

This is especially true of boys. Parents may think that the older child is getting enough sleep because he sleeps as many hours as the younger children; or that the older child, especially the boy, is getting enough food because he eats large quantities. As has been pointed out, the rapidly increasing weight and height of adolescent children, as well as the vigorous exercise that many of them take, make it the duty of parents to see that these boys and girls get plenty of sleep and to make sure that their diet includes sufficient fat and other concentrated foods to provide for their rapid growth and their great activity.

The onset of menstruation at puberty influences the nutritional needs of adolescent girls. Girls at this age should have liberal amounts of foods rich in iron and in the other dietary essentials involved in the formation and regeneration of red blood cells.

Many boys and girls leave school to go to work while they are still in their teens. Some of them live away from their parents' home, and their parents can no longer supervise their diet and habits. Even though such boys and girls have to take the responsibility for their own health it is a great mistake for them to consider themselves as adults merely because they have become wage earners. With regard to physical development they are still adolescents, and they have the same special needs as the boys and girls of the teen ages who remain in school. Many young people do not realize this and therefore fail to get the food, sleep, and outdoor exercise that they need at this age. Their employers may show some concern for their physical well-being by offering the opportunity to get palatable and nutritious meals at low cost. Young people's organizations may do the same and may also offer the opportunity to get wholesome rest and recreation. Unless, however, young people realize that they have special needs other than those of adults, they may fail to take advantage of such opportunities and almost invariably will fail to provide for their needs out of their small earnings. Community agencies, such as 4-H Clubs, the National Youth Administration, Young Men's and Young Women's Christian Associations, and church clubs, can do much good by taking over the health-education work that is done for most school-age young people by the school and the home.

The "keep-slender" fad.—In an effort to keep slender an adolescent girl may restrict her diet, and she may not only eat too little, but she may fail to eat some of the essential foods. She is likely to omit from the diet potatoes and milk, with the idea that they are fattening. She may even make a practice of omitting breakfast.

In order to keep girls from injuring their health through such efforts to keep slim, parents and school authorities should try to keep before these girls a sane standard of beauty and to convince them that a well-

rounded body is beautiful and that an angular, skinny body is not. The attention of adolescent girls may be directed to the fact that certain admired young women, although they are slender, show the signs of good nutrition, such as good muscles, sound, well-formed teeth, clear skin, glossy hair, and an air of vitality.

If a girl or boy is thought to be really overweight or to be gaining weight too rapidly, a doctor's advice is needed. After a thorough examination the doctor will decide whether or not reduction in weight is advisable; if he finds that it is, he may direct that the amount of energy foods in the diet, such as sweets and fats, be decreased, but that plenty of the basic foods—milk, vegetables, eggs, meat, fruit, and dark or whole-grain cereals and bread—must be eaten, so as to protect the body from malnutrition. Indeed, the amounts of the essential foods in the diet, especially fruit and vegetables, may need to be increased as an extra safeguard when less of the energy foods is eaten.

The physician undoubtedly will direct that weight should not be reduced other than gradually.

The problem of overweight is rare in the adolescent years. The more usual need at this age, as was pointed out previously, is for enough food to keep up with the body's demands brought about by rapid growth and increased activity.

Hazards inherent in high-school life.—Attendance at high school, especially a large high school, brings about some health hazards that affect nutrition. For many children the change from a small elementary school to a large high school brings about not only increased nervous and mental stimulation but also increased danger of getting infections such as colds and tuberculosis. The strain of hurrying to and from classes—sometimes of climbing stairs—the greater freedom in selection of lunches in the cafeteria and the resulting unsuitability of the lunches chosen, the late lunch hour brought about by the “one-session” school day, the overstrain due to competitive athletics, the stimulation caused by extracurricular activities such as clubs and parties, the home-lesson assignments, the pressure due to college-entrance examinations—all these are a part of high-school life. The combined effect of a number of these too often results in chronic fatigue and consequent malnutrition.

Many of these hazards to nutrition can be dealt with only by school authorities, but the parents can help their children by seeing to it that so far as possible conditions at home are conducive to health and that the right attitudes are developed. They can also seek cooperation from school authorities in bringing about changes in the high-school program that will benefit the pupils' health.

Readjustments in school life that may be needed.

When parents and school authorities cooperate in analyzing the problem of children's nutrition many readjustments in the school as well as the home may be found necessary. The lunch period may need to be put at a different hour and lengthened in order to allow for an unhurried lunch and for some outdoor recreation. Home-study assignments may need to be restricted or even abolished, to allow for a long period of outdoor recreation after school, some time for association with the family group after the evening meal, and a suitable bedtime. Extracurricular activities also may need some regulation.

The athletic program in many schools is in need of reform. Many educators and health authorities believe that competition between high schools should be entirely eliminated and that all forms of athletic competition should be greatly reduced.

The parents' part in bringing about changes in the child's diet and habits may be made easier if a nutrition program is being carried on in the school. If the child is learning in school about the foods he should eat and the health habits he should form, and if he is given an opportunity at school to put this knowledge into practice, he is likely to be willing to do so if only to gain the approval of his teacher. If his schoolmates also are in favor of the new program, the greatest obstacle to its success—the child's resistance to it—will be largely removed. When this occurs, a child who has in the past refused to drink milk, to eat vegetables, or to go to bed at a reasonable time, is likely to change his attitude. The parents' part then is to support the school program and to help to carry it out.

Salvaging the Child Who Has Had a Bad Nutritional Start

The program which has been outlined has shown how to keep the child on the road to good nutrition throughout life. The question now is, What can be done for the child who has not had the right start? What can be accomplished by parents who, when their child is 3, 8, 10, or older, awaken to the realization that he is malnourished? To what extent can they enable such a child to measure up to the standards for well-nourished children?

In general, a child who has been malnourished in the past can eventually measure up to many of these standards if he is given the benefit of a doctor's care, if his diet and health habits are sufficiently improved, and if the good diet and good health habits continue for a considerable period of time. Early defects caused by malnutrition, with the exception of certain types of defects in the bones and teeth, are, as a rule, not permanent but can be remedied to a great extent by improvement in the child's nutrition.

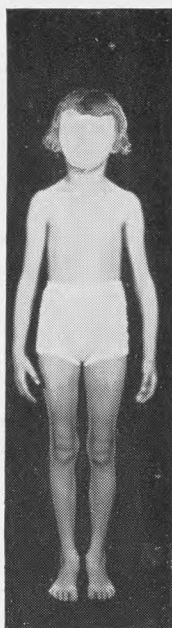
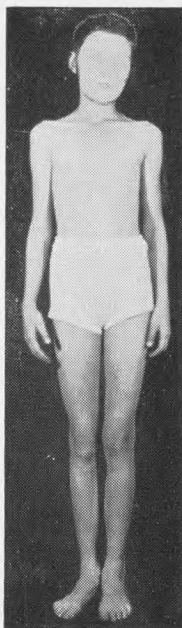
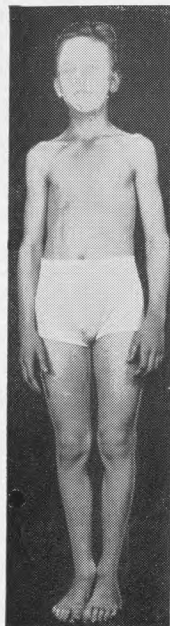
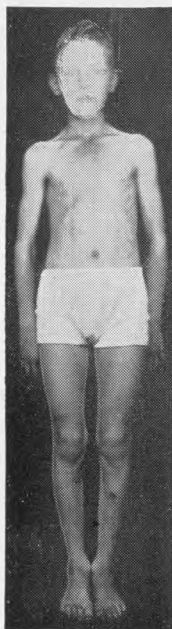
Of course, the earlier such improvements are begun, the better will be the result. For example, the bony defects caused by rickets may be almost, if not entirely, corrected if treatment is begun early enough. If the child with rickets remains untreated too long, however, the bony deformities that have already developed will remain throughout life.

Cavities in the teeth should be filled by a dentist. The process of decay may be arrested thereby, and after that the child's teeth may be kept in good condition by means of continued care by a dentist, care at home, and improved nutrition.

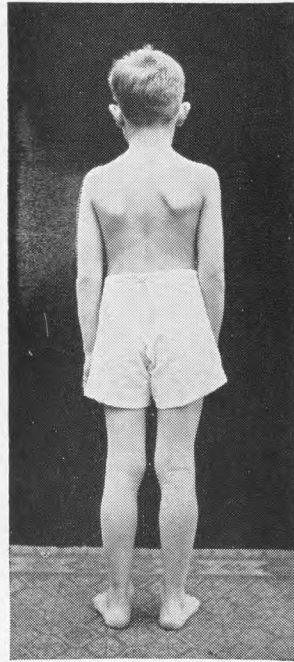
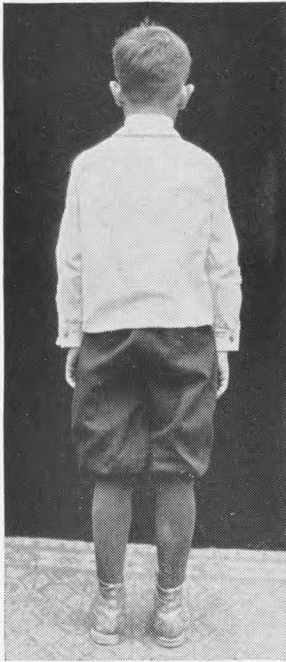
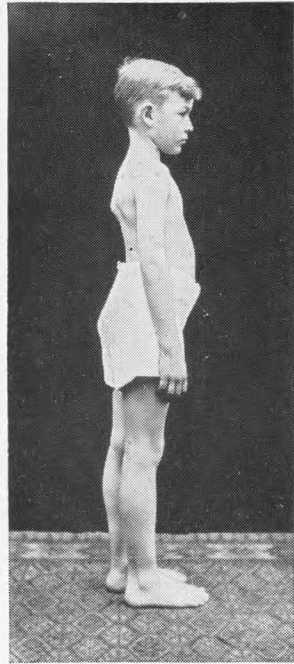
When parents realize that their child is malnourished, the thing to do, obviously, is to begin at once to get him on the road to good nutrition; then efforts must be made to keep him there.

First of all, the child should be given an examination by a physician, who will find out whether any chronic disease or any physical defect is interfering with the child's nutrition. Then, with the help of the parents, he will make a careful study of the child's diet, his sleep, and his entire way of living.

As part of the physician's efforts to put the child on the road to good nutrition he will advise the parents with regard to corrections in the child's diet and habits. Making such corrections is not an easy task, for poor habits of eating, sleeping, and so forth, are not easily changed. A badly selected diet in the past may have brought about food prejudices in the child that will change only with time and through tactful management on the part of the parents.

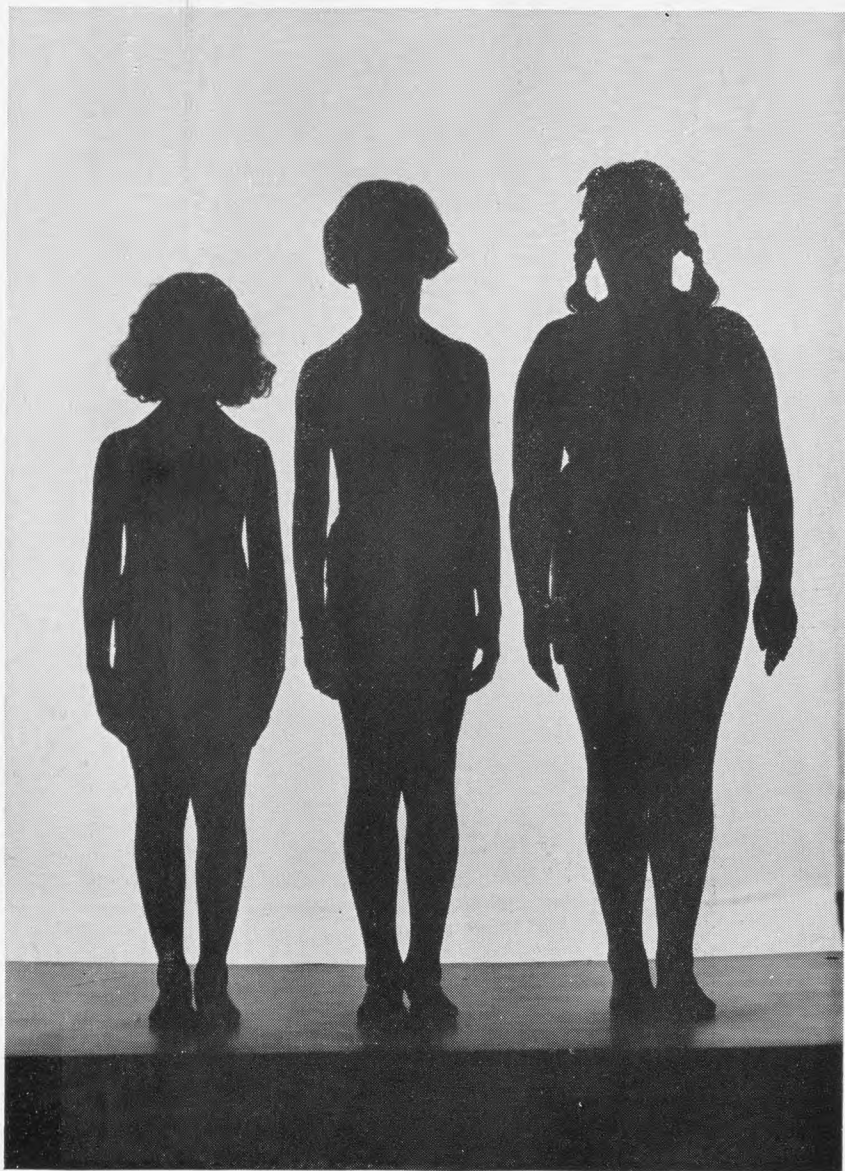


The care of a malnourished child, such as those shown here, should be under the direction of a doctor.



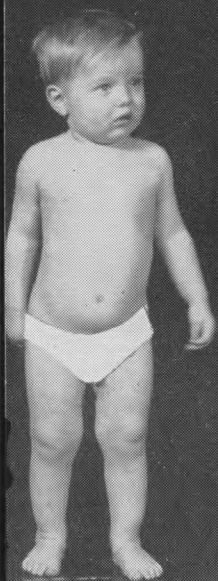
Photographs by Extension Service, United States Department of Agriculture.

The difference between this boy's appearance with and without clothes indicates the necessity for examining children without clothes before judging their nutrition.

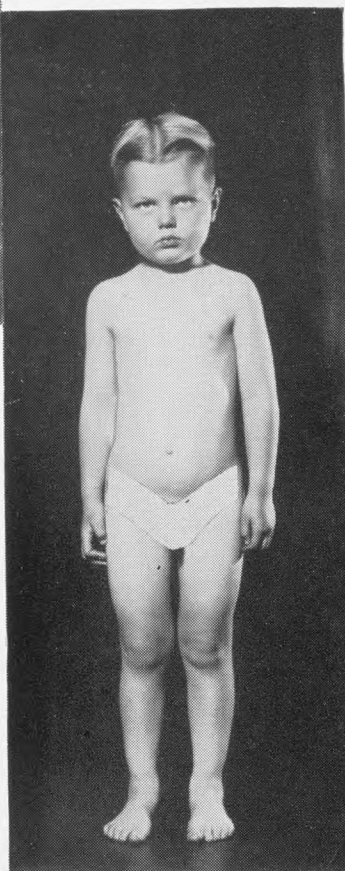


Photograph by Bureau of Home Economics, United States Department of Agriculture.

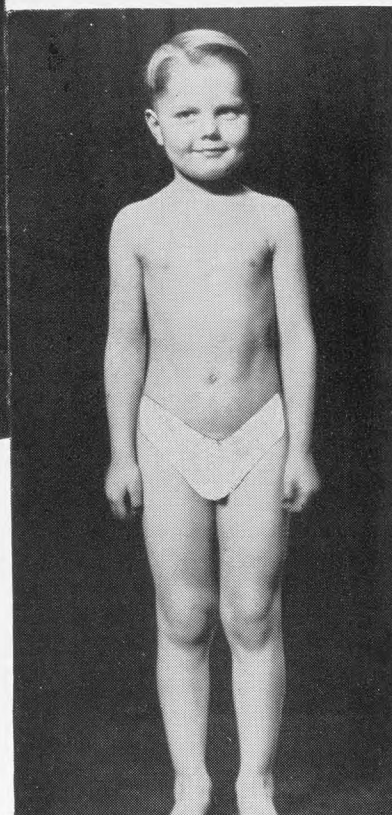
The differences in body build shown by these girls are not related to age nor to nutrition. All three girls are 8 years old, and all are well nourished.



In his second year.



In his fourth year.



In his sixth year.

Good Nutrition a Continuous Process

The process of good nutrition, as seen from the description in the preceding pages, is a continuous one; the nutrition of a child at any period of life is dependent on that of all preceding ones.

This means that the nutrition of a person reaching maturity is affected not only by conditions at that time, but also by what occurred in the school-age period, in early childhood, in infancy, and in prenatal life, as well as being affected by his heredity.

The child's progress toward good nutrition at maturity may be represented as a road. To follow this road successfully requires that enough of the essential foods be in the diet throughout the growing period and that the dangers that may affect nutrition be warded off. The diet "pattern" is the same at all ages; it includes, at every period from prenatal life on, milk, vegetables, fruits, eggs, meat, whole-grain cereals and bread, and sources of vitamin D and of iodine. Sleep and rest, as well as play and exercise outdoors in the sunshine, also are essential at every period of the child's life.

The chief problem is how to avoid the many dangerous byways that lead away from the road to good nutrition, for if the byways are followed too far, they lead to nutritional disaster. If a child, at any age, chances to get on one of the dangerous byways, he must be brought back promptly and set again on the right road.

Keeping a child continuously on the right road through all these periods is a real achievement, and it should result in a well-grown, physically fit adult.

Signposts on the Road to Good Nutrition—A Check List

In the foregoing sections the characteristics of a healthy, well-nourished child have been described, and an outline given for a program of care at every period of the child's life. The essentials of these are summarized in the following questions, which may be used as a check list:

A. Does He Have General Signs of Good Nutrition and Good Health?

1. Is his general appearance one of vitality and well-being?
.....
2. Is his posture erect? With head up?
Chest leading (if he is more than 3 or 4 years old)?
Shoulders flat?
3. Is his facial expression in repose calm, interested, and happy? Is it free from strain and worry?
4. Is his body well padded with sufficient muscle and fat to give it a well-rounded contour?
5. Does his skin have a healthy glow? Are his fingernails pinkish? Are the mucous membranes inside his mouth and eyelids reddish? Are his ears pinkish when seen against light?
6. Are his teeth well formed? Regular? With no overlapping or crowding? Do they appear to be sound? If there has been decay, have the cavities been filled? Is he free from toothache?
7. Does he breathe easily with his mouth closed? With either nostril closed with the finger? Is he free from snoring?
8. Does the doctor say that the child's tonsils are normal?
9. Does the doctor say that there is no sign of enlarged thyroid, or goiter?

B. Is His General Behavior That of a Healthy Child?

1. Is he normally active and full of life? Is he free from nervousness? Is he free from restlessness?
2. Does he come to his meals hungry enough to eat all that he needs?
3. Does he go to bed wholesomely tired, but not excessively so? Does he go to sleep almost at once?

4. Does he wake up refreshed and in good spirits in the morning, eager to begin the day's activities?
5. Do his bowels move regularly without the use of laxatives?
6. Can he play as hard as other children of his age without becoming unduly tired?
7. Does he recover from fatigue easily and fully after a few hours' rest?

C. Is He Growing Normally?

1. Is he weighed at regular intervals? ¹
 2. Is his weight curve ² generally upward?
 3. Does the doctor consider the child's gain in weight satisfactory for one of his race, family, sex, and age?
- (When the doctor says that a child's gain in weight is satisfactory, he does not mean that it is satisfactory in comparison with an average, but for that individual child.)

D. Is He Getting the Foods He Needs for Good Nutrition?

1. If he is less than 1 year of age, is his feeding under a doctor's supervision? If he is less than 7 months of age, is he at least partly breast-fed? If he is artificially-fed, is his milk mixture recommended by the doctor? If evaporated milk is not used, is the milk boiled? Does he receive additional foods besides milk, according to the doctor's recommendations? Is he "growing up" with regard to eating habits?
2. If he is more than 1 year old does he get the foods he needs every day, as follows:

Milk.—Does he get at least 1½ pints daily (a quart is best)?

¹ During the first year of life a child should be weighed every 2 weeks; from the first birthday to the sixth, once a month; from the sixth birthday to the sixteenth, at least twice a year—at the beginning and the end of the school year. (If a midyear weighing can be done also, valuable information will be obtained with regard to the child's nutrition.)

A balance scale rather than a spring scale should be used. Each weighing should be done at about the same time of day, preferably before a meal. The child may be weighed either with or without clothing. If clothing is worn, it should be approximately the same at all weighings; outdoor clothing should not be worn when the child is being weighed.

A record should be kept of each weighing, and the record should be taken to the doctor when a health examination is to be made. Such a record will be a help to the doctor in judging the child's health and nutrition.

² The weight record of the older well-nourished child, who is weighed only once or twice a year, should show a gain at every weighing; the record of the younger well-nourished child (under 6 years), however, who is weighed frequently, may occasionally show a failure to gain, or even a slight loss. As a general rule, however, the record of a well-nourished child should show gain in weight.

Citrus fruit or tomatoes.—Does he get at least one generous serving daily of orange, grapefruit, or raw or canned tomatoes (or a larger amount of some other fruit or vegetable, raw)?-----

Other fruit.—Does he get one or more servings daily of other fruit, raw or cooked (besides citrus fruit or tomatoes)?-----

Potatoes.—Does he get one or more potatoes daily (one daily for younger children)?-----

Other vegetables.—Does he get two or more servings of other vegetables daily, in addition to potatoes (one serving for younger children)?----- Does he get a green or yellow vegetable at least several times a week?-----

Eggs.—Does he get an egg daily----- or at least four or five a week?-----

Lean meat or fish.—Does he get one or more servings of meat or fish daily?-----

Dark or whole-grain cereals and bread.—Does he get two or more servings daily of dark or whole-grain or enriched cereal or bread?-----

Butter, or margarine with added vitamin A.—Does he get at least three servings of butter daily, or margarine with added vitamin A (total amount, 1 ounce or 2 tablespoonfuls)?-----

A source of vitamin D.—Does he get some good source of vitamin D daily, such as sunshine, or cod-liver oil, or other source recommended by the doctor?-----

Other foods.—Does he get enough bread, butter or other fats, potatoes, desserts, and other foods to satisfy his appetite and to provide energy?-----

E. Does He Have Good Habits of Eating?

1. Does he have at least three full meals daily?-----
2. Are the meals well spaced, with enough time between them to permit hunger to develop?-----
3. Is between-meal eating, if any, restricted to the eating of simple, easily digested foods, such as fruit, milk, bread?
4. Are sweets eaten only with a meal, as dessert?----- Is candy eaten infrequently, or not at all?----- If candy is eaten, is the amount small?-----

5. Is breakfast eaten regularly?..... Is it unhurried?.....
 Is it generous in amount?..... Does it carry its fair
 share of the essential foods: Milk?..... Fruit?.....
 Eggs?..... Energy food such as bread and butter, cereal,
 potatoes?.....
6. Is lunch eaten regularly?..... Is it generous in amount?
 Does it carry its fair share of: Milk?.....
 Fruit and vegetables?..... Meat, fish, or eggs?.....
 Dark or whole-grain or enriched cereals and bread?.....
 Additional energy food such as bread and butter, cereal,
 potatoes?.....
7. Has he learned to like—or to eat without question—most
 of the foods that have come into his dietary?.....
 Checking the foods on the following list will give a good
 idea of his “food vocabulary”:³

Milk and cheese.

- Whole milk (as a drink or in cooked foods)
- Skim milk or buttermilk (as a drink or in cooked
 foods)
- Cheese made of whole milk
- Cottage cheese

Fruit.

- Apples
- Bananas
- Grapefruit or oranges
- Peaches or apricots
- Prunes
- Other fruits

Vegetables.

- Tomatoes
- Cabbage
- Green leaves (turnip tops spinach
 beet greens kale lettuce
 other greens)
- Green peas string beans fresh
 lima beans
- Mature beans and peas (dried lima beans
 navy beans pinto beans black-eyed
 peas others)
- Turnips or rutabagas
- Potatoes

³ The foods that the child may be expected to like depends on his age, on the foods available in the locality where he lives, and on family customs.

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Sweetpotatoes -----
 Other yellow vegetables (carrots ----- pumpkin
 ----- yellow squash -----)
 Other vegetables -----

Eggs, meat, fish.

Eggs -----
 Lean meat -----
 Liver -----
 Fish (salt-water fish ----- fresh-water fish -----)
 Shellfish -----

Grain products.

Dark or whole-grain or enriched cereals and bread
 (rolled oats ----- cracked wheat ----- flaked
 wheat ----- whole-wheat bread ----- rye
 bread ----- brown rice ----- others -----)

F. Does He Have a Wholesome Program of Sleep, Exercise, and Rest?

1. If under 1 year of age, is he in bed by 6 p. m.?-----
 Are his naps taken out of doors whenever the weather
 permits?-----
 Does he have plenty of opportunity for exercise, unre-
 stricted by tight clothing or bedclothing?-----
2. If he is an older child does he have long hours of active play
 or other wholesome occupation out of doors every day in
 all but the most unpleasant weather?----- If he is less
 than 6 years old does he have not less than 5 hours?-----
 If he is of school age, not less than 3?-----
3. Does he go to bed at a regular hour?----- Has he the
 habit of going to bed at the appointed time?-----
4. Does he go without being reminded?----- If he does not
 go without being reminded does he then go readily?-----
5. Does he sleep till he wakes spontaneously and shows signs
 that he has had enough sleep?-----
6. If he is less than 6 years old does he have a regular daytime
 rest of an hour or more, whether or not he sleeps?-----

G. Are Precautions Taken Against Disease?

1. Is he under the supervision of a doctor?----- Does the
 doctor give him a thorough examination at least once a
 year?-----
2. Has he been immunized against: Smallpox?----- Diph-
 theria?----- Whooping cough?----- Has he had
 any other immunizations advised by the doctor?-----

3. Is the water supply for drinking known to be safe?-----
If not, is it boiled before drinking?-----
4. Has all the fresh milk that is purchased been pasteurized?
----- If the child is less than 2 years old, is his milk
boiled?-----
5. Are raw fruits and vegetables peeled or thoroughly washed?

6. Are flies and other vermin kept away from him?-----
and from his food?-----
7. Are mosquitoes kept away from him?-----
8. Is he kept away from sick people?----- If he is under
school age is he kept out of crowds?-----

H. Are His School Conditions Favorable to Good Nutrition?

1. Is the time when school begins in the morning suited to his
health needs?-----
2. Is the time spent in school and at other indoor activities short
enough to permit plenty of outdoor play and exercise?

3. Is a recess of 10 to 15 minutes given both in the morning
and in the afternoon, at least for children in the lower
grades?----- Is this recess spent out of doors when the
weather is suitable?----- When recess is spent indoors
is it spent in a room or shelter allowing fresh air and
relaxation?-----
4. Is lunch time long enough for an unhurried meal?-----
If lunch is eaten in the school lunchroom, is the food
palatable?----- Is it well planned, as suggested in
question E?----- Is a "plate lunch" served at the
school?----- If choice among foods is allowed, is it
restricted so as to insure that the child gets an adequate
lunch?-----
5. Is the sale of candy on the school premises prohibited
entirely?----- If not, is candy sold only in the lunch-
room?----- Is it sold to a child only in small amounts
and after he has eaten a good lunch?-----
6. Are clubs, parties, and other extracurricular activities
regulated so as not to restrict the child's time out of
doors?----- Are they regulated so as not to cause
overstimulation and fatigue?-----
7. Is the physical-education program so regulated as to be
conducive to good nutrition and health? -----
8. Is assignment of home study prohibited in the lower
grades?----- and prohibited or reduced to a minimum
in the upper elementary grades?-----

Selected Publications of the Federal Government With Regard to Nutrition in Children

Children's Bureau, United States Department of Labor

Prenatal Care. Pub. 4.

Infant Care. Pub. 8.

Baby's Daily Time Cards (seven cards giving daily routine and training for babies from birth to 2 years of age).

The Child From One to Six; his care and training. Pub. 30.

Child Management. Pub. 143.

Are You Training Your Child To Be Happy? Pub. 202.

Good Posture in the Little Child. Pub. 219.

Guiding the Adolescent. Pub. 225.

Children Bear the Promise of a Better World—Have They the Protection of Proper Food? Defense of Children Series No. 4.

Folders:

The Expectant Mother. Folder 1.

Breast Feeding. Folder 8.

Keeping the Well Baby Well. Folder 9.

Out of Babyhood Into Childhood. Folder 10.

Your Child's Sleep. Folder 11.

Well-Nourished Children. Folder 14. (Prepared in cooperation with the Bureau of Home Economics, United States Department of Agriculture.)

The Healthy, Well-Nourished Baby, Birth to 1 Year. Folder 16.

The Healthy, Well-Nourished Child, 1 to 6 Years. Folder 17.

The Healthy, Well-Nourished Child, 6 to 16 Years. Folder 18.

Mother! Nurse Your Baby! Folder 19.

Feeding Your Baby. Folder 20.

Your Young Child's Health. Folder 21.

Your School Child's Health. Folder 22.

The Noon Meal at School. Folder 23.

Your Children's Food and the Family Pocketbook. Folder 24.

Substitutes for the Sun. Folder 25.

United States Department of Agriculture

Eat the Right Food To Help Keep You Fit. Issued by the Bureau of Home Economics with the cooperation of the Children's Bureau and other Government agencies.

Food for Children. Farmers' Bulletin 1674.

Good Food Habits for Children. Leaflet 42.

Human Nutrition. In Food and Life; Yearbook of Agriculture, 1939, pp. 97-379 (also published separately).

Menus and Recipes for Lunches at School. Miscellaneous Publication 246.