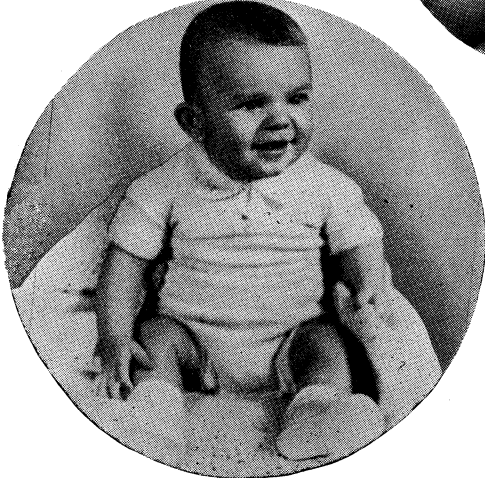
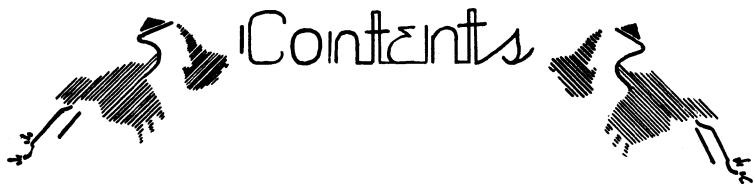




# Building Healthy Babies





# Contents

	Page
Prenatal Care .....	3
Expectant Mothers Need Medical Care .....	3
The Diet is Important .....	3
Food needs of the expectant mother .....	4
A daily food selection guide .....	5
Nausea During Pregnancy .....	5
Constipation .....	6
Facts Expectant Mothers Should Remember .....	6
Food Needs of the Nursing Mother .....	7
Feeding the Baby .....	7
Breast milk .....	7
Artificial or bottle feedings .....	8
Making bottle feeding safe .....	8
The Milk Mixture .....	8
Importance of boiling milk mixture .....	8
Planning the formula .....	9
Quantity of milk .....	10
Kind and quantity of sugar .....	10
Number of feedings and intervals between feedings .....	11
Amount of milk to be given at each feeding .....	11
Total amount of milk mixture in 24 hours .....	11
Amount of water to be added to milk .....	12
Plan for formula feedings .....	12
Care and Selection of Nursing Bottles .....	14
Nipples .....	14
Equipment Needed in Preparing Milk Formula .....	14
Regular Feeding Is Important .....	16
Chart I, Daily Feeding Chart—3-Hour Schedule .....	17
Water for the Baby .....	18
Is the Baby Thriving? .....	18
Figure 1, A Well Nourished Baby .....	18
Overfeeding .....	19
Underfeeding .....	19
Colic .....	19
Rickets .....	20
Cod-liver Oil .....	21
Sun Baths .....	21
Babies Need Supplementary Foods .....	22
Teaching Babies to Eat Supplementary Foods .....	23
Chart 2, Daily Feeding Chart—4-Hour Schedule .....	24
Teething .....	26
Figure 2, Age at Which Temporary Teeth Come in, or Erupt .....	26
Weaning .....	27
The Baby's First Year Foods .....	27
Goals for the One-Year-Old Child .....	28

NOTE: The babies whose pictures appear in this bulletin are Oklahoma children whose parents have given them the kind of care recommended in "Building Healthy Babies."

# **BUILDING HEALTHY BABIES**

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Babies stand a better chance of being well built and healthy, and mothers have a better chance of protecting their health and being strong enough to care for their babies, if they have the proper care from the beginning of pregnancy. This care that the mother and her baby-to-be need is called prenatal care. Prenatal means before birth.

Some expectant mothers look to older friends for advice and see a physician only in case of illness or at the time of confinement. This does not provide them with proper care.

## **PRENATAL CARE**

A mother should go to her family physician as soon as she thinks she is pregnant. He will give her a thorough physical examination and ask her to return for other examinations at regular times. These examinations are very important. The mother should follow her physician's advice in all things because he understands her needs. He is trained to do the most that can be done to help her keep her own good health and to prepare the way for the birth of a healthy baby. He will act as a guide to see that everything moves on as it should and is often able to save the mother many complications and a great deal of discomfort.

## **EXPECTANT MOTHERS NEED MEDICAL CARE**

Every expectant mother has a right to proper medical care. If she cannot afford to go to a private physician, she should go to a health center maintained by public funds. Here she should be able to get, without charge, the advice and help that she needs.

All members of the family should share the responsibility of preparing for the baby. It is their duty to secure for the mother the best medical care that the family can afford, to relieve her of heavy work, and, in general, help to make her life as pleasant and free from care and worry as possible.

## **THE DIET IS IMPORTANT**

One of the things the physician will do as the mother comes to him from time to time for examinations is to advise her what foods she should eat. He will help her plan her diet so that it will meet the needs of both herself and the growing baby. This is very important, because if the food she eats does

not furnish the materials needed for the baby, her body will supply them, and her health may suffer. This is nature's way of protecting the unborn baby. Proper food and good medical care go hand in hand in developing a healthy baby and protecting the health of the mother.

There was a time when little was known about the needs of expectant mothers. Many women sacrificed their health and strength and gave birth to babies who were too weak to live. Mothers lost their teeth and believed a "tooth for each child" was necessary. They paid, without complaint, what was considered the "price of motherhood." Today we know that women need not pay such penalties for having children. We know that a diet that meets the needs of the expectant mother will protect her tissues, help her to maintain good health, prepare her to nurse her baby, give her a better chance of giving birth to a healthy baby, and help her to recover her strength quickly after the birth of her baby.

#### FOOD NEEDS OF THE EXPECTANT MOTHER

If a woman has good food habits and eats an adequate, well-balanced diet regularly, it is usually not necessary for her to make many changes in her diet during pregnancy. Probably the only change necessary is the use of larger amounts of certain foods such as milk, vegetables and fruits which contain materials needed for the baby.

Many expectant mothers develop an unusual appetite and often a craving for certain foods. As a result, they eat more than is good for them. Too much food puts an extra strain upon their digestive organs and is also likely to cause them to gain too much weight. One can easily see that this would add to their discomfort. Some people still have the idea that an expectant mother should eat much food because she "eats for two." This is an old idea which is wrong. Only about one-fifth to one-fourth of what a woman should normally eat is needed to meet the new demands made upon her. Her need for foods rich in vitamins and minerals has increased more than has her need for energy foods. She should remember that it is more important that she eat the right kind of food than that she eat a lot of food.

If a mother eats a well-balanced diet of simple, nourishing foods, gets plenty of rest, sleep, and moderate exercise, and takes the best possible care of herself, according to her physician's orders, she can be quite sure that her child will be able to build up a sound and normal body and that she herself is well prepared for motherhood.

The following is suggested as a daily food selection guide:

1. *Milk*—1 quart, in cooking or as a drink. Buttermilk or cottage cheese may be substituted for a part of the milk.
2. *Fruits and Vegetables*—5 servings  
1 or more should be raw.  
1 should be green or yellow.  
1 may be potatoes.  
Use leafy vegetables frequently.  
Use tomatoes or oranges at least 4 times a week.
3. *Eggs*—1 egg a day is a good rule.
4. *Meat (lean), Fish, Cheese, Dried Peas or Beans*—1 or 2 servings.  
1 serving of meat is sufficient, especially when an egg is used.  
Cottage cheese is an easily digested food and is a good substitute for meat.
5. *Whole Grain Cereals or Breads*—1 or more servings.
6. *Fats, Sugars, and Starches*—enough combined with other foods to make a more satisfying and palatable diet.
7. *Water and Other Liquids*—6 to 8 glasses.
8. *Cod-liver or Haliver Oil*—is recommended by many physicians because both are rich in two important vitamins, A. and D. The amount to be used depends on the type of oil used.

The amount of food the expectant mother needs depends on the amount of work she does. If she continues doing about the same work she does normally, she will need the same amount of food plus extra milk, vegetables and fruit which will give her the extra minerals and vitamins she needs for the baby's growth. An adequate diet is the mother's protection against the loss of teeth, becoming anemic and getting into a general run-down condition while she is carrying her child.

When some abnormal condition arises during pregnancy, the mother's diet often has to be changed to meet the condition. The physician who has made a careful examination of the mother and knows the condition of her health is the only one who can safely advise her what she should or should not eat.

#### NAUSEA DURING PREGNANCY

Many women are troubled with nausea during the early part of pregnancy and feel they should quit eating if they be-

come nauseated. This is often the most harmful thing one can do. If a woman will take a cup of hot milk, coffee or tea, and some crackers or toast before getting up, and will eat smaller meals more frequently during the day, she will probably be able to control the nausea. If it continues, she should consult her physician. She should make every effort to prevent nausea because it makes her most uncomfortable and is likely to deprive her of much needed nourishment.

Some women find that they can take care of their food easier if they eat five small meals a day instead of three larger ones, especially during the last two or three months of pregnancy. Meals should be taken at regular times whether three or five are eaten.

#### CONSTIPATION

Expectant mothers often suffer from constipation. This condition can generally be controlled by proper health habits, the drinking of plenty of liquids and eating of laxative foods. Laxative foods are not necessarily bulky and rough foods as some believe. A laxative diet would include considerable fruit, raw or cooked; fresh vegetables, especially the green ones; whole grain cereals or breads; buttermilk, and plenty of water.

If constipation continues, the expectant mother should see her physician. Medicines and enemas should not be used except when he advises their use.

#### FACTS EXPECTANT MOTHERS SHOULD REMEMBER

1. Pregnancy is a natural process, but a physician's guidance is needed during this period.
2. A woman need not sacrifice her health in order to have babies. By going to a physician at the beginning of pregnancy, and following his advice during the entire time, she can best prepare for a safe motherhood and a well developed child.
3. A diet that adequately meets the needs of pregnancy is important.
  - a. It furnishes material necessary for the development of strong, well formed muscles, bones and teeth in the new baby.
  - b. It supplies a store of iron that will protect the baby during the first five or six months of life; that is, until it can get the needed supply from its diet.
  - c. It protects the mother's body.
  - d. It gives better assurance of an adequate milk supply for the baby.

- e. It gives the mother strength to care for her baby properly.
4. Milk is a most important food in the diet during both the prenatal and nursing periods.

#### FOOD NEEDS OF THE NURSING MOTHER

The mother who is nursing her baby should continue eating the same well-balanced diet she used while she was pregnant. She will find, however, that she wants a larger amount of food because there is a severe drain on her body. It is true that the nursing mother needs plenty of wholesome food, but, she should be careful not to eat so much that it will interfere with good digestion.

#### FEEDING THE BABY

While each baby is different, there is a right and a wrong way to deal with babies in general. Well babies are good babies, if properly handled. The kind of food they get and the kind of eating habits they form play a very important part in determining what kind of children they will be. The time to begin proper training is the minute a child is born.

#### BREAST MILK

Babies can be bottle fed with greater safety today than formerly, but statistics still show a much lower death rate for breast-fed than for bottle-fed babies during the first year. Since breast milk is the safest, cheapest and best milk, the normal, healthy mother who can furnish a good quality of milk (most women can) should make every effort to nurse her baby. She should keep herself in the best possible condition for producing the best milk. To do this she needs a wholesome diet. But, proper food is not all that she needs. She needs daily exercise, sunshine, at least eight hours of sleep each night, at least an hour's rest during the day, and good elimination of body wastes. She should avoid excitement, worry and other causes of nervousness. She needs to lead a happy, normal and regular life.

The mother should not get up too soon after the birth of her child nor attempt to do too much. If she does, it affects not only her general condition, but her milk supply as well. No matter how well she may feel, she needs proper care and at least 10 days of complete rest in bed after the birth of her child. Most mothers are able to be up after two weeks, but it is well for them not to take up all their regular work for six weeks after the birth of a child.

If a mother has reason to believe that her milk does not meet the needs of her baby, she should take him to a physician

who understands infant feeding. In some cases the physician may find that she needs medical attention and will ask her to give the baby a bottle instead of the breast for certain feedings until her own milk improves. There is no reason why a baby shouldn't have some bottle feedings if he needs them. If the mother's milk supply does not improve after everything recommended by the physician has been done and the baby does not thrive on her milk, he will probably have to become a "bottle fed" baby.

#### ARTIFICIAL OR BOTTLE FEEDINGS

The milk, together with the other things added to it before it is fed to the baby from a bottle, is called a formula. It is used to take the place of breast feedings and should meet the food needs of the baby and be digested with as much ease as possible.

These bottle feedings sometimes require many changes before a formula that suits the baby is found. The mother should not become alarmed over these changes. She should have patience and cooperate with her physician in finding the formula the baby needs. She should not make the mistake of trying everything suggested by friends. Just because a certain food was used successfully for a neighbor's baby is no guarantee that it is the food her baby needs.

#### MAKING BOTTLE FEEDING SAFE

If bottle feeding is to be safe, special precautions must be taken. Carelessly handled feedings are responsible, to a large extent, for the high death rate among bottle-fed babies. A clean milk supply handled with sterilized equipment does much to safeguard the lives and health of babies.

#### \*THE MILK MIXTURE

*"Artificial feeding should be planned with the advice of a doctor. His advice is especially important during and after the weaning period. If the baby is not weaned until after he is six months of age, adjustment to cow's milk feeding will probably be made easily. If, however, weaning has had to take place earlier, the feeding should be even more closely supervised by the doctor. It is more difficult to feed a young baby successfully on a cow's milk mixture than an older one, and the plan for this feeding often requires the doctor's most careful judgment.*

*"No single method of feeding can possibly meet the needs of all infants. The methods given in the following pages are adaptable to the needs of most well infants:*

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\* Quoted from the Children's Bureau Publication No. 8, "Infant Care" (1938 revision).



*“Cow’s milk (or goat’s milk) should be the principal food of the baby who is not being nursed. A boiled mixture of cow’s milk (whole), water and sugar—the amounts varying according to the doctor’s directions—is usually suited to the baby under nine months of age. After the baby is nine months old and sometimes much earlier, cow’s milk (whole) can usually be given without being mixed with water and sugar; it should be boiled.*

*“For the very young baby it is usually better to use milk that does not have a very high percentage of fat, not more than four percent. Milk from Jersey and Guernsey cows is sometimes too rich for young babies. If used, it should have about half the cream removed.*

#### **Importance of Boiling Milk Mixture**

*“It is of utmost importance to any baby who must be artificially fed that the milk mixture be boiled to make it safe. Boiling milk kills all the disease germs that the milk contains. It also makes milk more digestible. The curds formed in the baby’s stomach in the process of digestion of raw cow’s milk are apt to be large and hard. They are frequently found undigested in the baby’s stool. Such undigested raw-milk curds found in stools look very much like white or yellowish lima beans. After milk has been boiled for three minutes in a single boiler or cooked for 20 minutes in a double boiler it is made more digestible. The curds that are formed in the baby’s stomach from boiled milk are small and soft, more like the curds from breast milk. When a baby is fed boiled milk no large tough curds appear in the stools. Because boiling makes milk both safe and more digestible, many of the digestive disturbances and other difficulties of artificial feeding disappear when this procedure is rigidly followed in preparing the baby’s feedings. It is perhaps the one rule that can be laid down for all artificially-fed babies.*

#### **PLANNING THE FORMULA**

*“To plan a formula intelligently for an artificially-fed baby the following points should be varied according to the age and weight of the baby:*

- 1. The quantity of milk to be used in the total amount of milk mixture given in 24 hours.*
- 2. The quantity of sugar to be used in the total amount of milk mixture given in 24 hours.*
- 3. The number of feedings a day and the interval between feedings.*

4. *The amount of milk mixture to be given at each feeding.*
5. *The total amount of milk mixture to be given in 24 hours (amount at each feeding multiplied by the number of feedings).*
6. *The total amount of water which must be added to the milk to bring the quantity up to the total amount of mixture required.*

1. **QUANTITY OF MILK**—*The baby on the first day of life is usually given water, sweetened or unsweetened. On the second and third days of life milk is begun—1 ounce of milk for each pound of the baby's weight; that is, a 7-pound baby gets 7 ounces of milk in 24 hours, with water and sugar added (described on pages 11, 12 and 13).*

*“From the fourth to the seventh day a baby needs  $1\frac{1}{4}$  to  $1\frac{1}{2}$  ounces of milk daily for each pound of his weight.*

*“During the second, third and fourth weeks the average baby needs not less than  $1\frac{1}{2}$  ounces of milk daily for each pound of his weight.*

*“From the beginning of the second month to the end of the ninth month most babies need  $1\frac{3}{4}$  to 2 ounces of milk daily for each pound of their weight. No baby should be given more than 2 ounces of milk per pound or more than 32 ounces (1 quart) of milk in 24 hours. When the baby is nine months old he will be taking a variety of other foods, so that it is not necessary to increase the amount of milk further. Some doctors prefer to give the water between the feedings rather than in the formula after the baby is six months old. In any case, after the beginning of the tenth month, whether the baby has been breast fed or artificially fed, he may be given daily 32 ounces of cow's milk (boiled) unmixed with water or sugar. Some of this milk may be used in cooking the cereal or poured over it.*

2. **KIND AND QUANTITY OF SUGAR**—*Several kinds of sugar are commonly used in feeding babies: Common granulated sugar, mixtures of malt sugar and dextrin, corn syrup and milk sugar. Granulated sugar and corn syrup are satisfactory for most babies and are the cheapest sugars. One level tablespoonful of granulated sugar or corn syrup weighs the same as  $1\frac{1}{2}$  tablespoonfuls of malt sugar or of milk sugar; therefore if malt sugar or milk sugar is used, one and one-half times as much will be needed as of granulated sugar or corn syrup.*

*During the first week of life the average seven-pound baby will need 1 level tablespoonful of granulated sugar added to the whole day's allowance of milk mixture. During the first month this may be gradually increased to 2 level tablespoonfuls, during the second month to 2½ level tablespoonfuls, and during the third or fourth month to 3 level tablespoonfuls. The average baby will not require more than 3 tablespoonfuls of granulated sugar a day at any time, or 4½ tablespoonfuls of malt sugar or milk sugar.*

*“At the beginning of the seventh month the amount of sugar should be decreased gradually, until at the beginning of the ninth month no sugar will be added to the milk.*

**3. NUMBER OF FEEDINGS AND INTERVALS BETWEEN FEEDINGS**—*The average baby will do well if fed every four hours regularly from birth. This interval between feedings should be used and adhered to unless the doctor orders more frequent feedings. The very young baby may need six feedings in 24 hours—usually given at 6 a. m., 10 a. m., 2 p. m., 6 p. m., 10 p. m., and 2 a. m. The baby should be awakened for each feeding except the one at 2 a. m. The 2 a. m. feeding may usually be omitted by the time the baby is two months old, or sooner if he is gaining well. Five feedings are therefore all that will be necessary, and this number will be continued until he sleeps through the 10 p. m. feeding, usually at four or five months. After this give only four feedings a day, according to the schedule arranged to suit the individual family.*

**4. AMOUNT OF MILK MIXTURE TO BE GIVEN AT EACH FEEDING**—*The amount of milk mixture given to a baby at each feeding is small at first and is gradually increased as the baby gets older. The baby who is fed at four-hour intervals receives larger feedings than the one who is fed at three-hour intervals. Babies vary considerably in the number of ounces which they will take at a feeding. For all babies it is well to begin with small amounts, 2 to 2½ ounces, and increase gradually month by month up to 8 ounces at a feeding as a maximum. The baby should take the feeding in 15 to 20 minutes.*

<b>Baby Fed at 4-Hour Intervals</b>	<b>Ounces</b>
First week .....	2 -2½
Second, third, and fourth weeks .....	3 -4
Second month .....	3½-5
Third month .....	4 -6
Fourth month .....	5 -7
Fifth and sixth months .....	6 -8
Seventh to twelfth month .....	7 -8

**5. TOTAL AMOUNT OF MILK MIXTURE IN 24 HOURS—**  
*It is important to calculate the total amount of mixture that should be given to a baby in a day in order to know how much water must be added to the milk to make up the total quantity of the feeding for the 24-hour period. This is done by multiplying the amount that has been decided on for each feeding by the number of feedings. For example, if a baby who is four months old has five feedings of six ounces each, the total amount for 24 hours will be 30 ounces.*

**“AMOUNT OF WATER TO BE ADDED TO MILK—***After calculating the total amount of milk mixture to be given in 24 hours, subtract from it the amount of milk to be given during the same time; the result will be the amount of water that must be added.*

*For example, in planning the feeding for a four-month-old baby weighing 12½ pounds, the following subtraction will be made:*

	Ounces
Total amount of milk mixture given in 24 hours: Amount given at each feeding (6 ounces) multiplied by the number of feedings (5).....	30
Milk required: 1-¾ ounces multiplied by the baby's weight (12½ pounds).....	22
Water to be added.....	8

*“Many doctors give milk undiluted with water from the sixth or seventh month on. The water is then given between the feedings. This plan is especially good if the infant is small and will not take the calculated amount of the formula (milk and water), and also if the infant is slow in taking the full amount at each feeding.”*

#### PLAN FOR FORMULA FEEDING

The following plan for the bottle feeding of a well baby is given as an example which may help the mother in following her physician's instructions, not as a substitute for them.

The formulas for milk mixtures have been figured according to the instructions on preceding pages. They can be changed to suit the individual baby by following the instructions given there. The milk mixtures should be boiled.

After the second month, even those babies who at first had to be placed on a three-hour schedule, are usually ready for a four-hour schedule.

Age	Av. weight (Pounds)	Whole Milk (Ounces)	Boiled Water (Ounces)	Sugar (Level tbsps.)	Ounces per feeding 4-hour sched.	Ounces per Feeding 3-hr. Schedule
First day -----	7		10	1	1½ to 2 ounces (6 feedings)	1½ ounces (7 feedings)
2nd to 7th day -----	7 or slightly less	8	7	1	2½ ounces (6 feedings)	2 to 2¼ ounces (7 feedings)
First week -----	7	10	5	1½	2½ ounces (6 feedings)	2 to 2¼ ounces (7 feedings)
Second week -----	7¼	11	7	2	3 ounces (6 feedings)	2½ to 2¾ ounces (7 feedings)
Third week -----	7½	12	6	2	3 ounces (6 feedings)	2½ to 2¾ ounces (7 feedings)
First month -----	7¾	14	6	2½	3½ ounces (6 feedings)	2½ to 3 ounces (7 feedings)
Second month -----	9½	16½	6	3	3½ to 4 ounces (6 feedings)	3 to 3½ ounces (7 feedings)
Third month -----	11	19	6	3	5 ounces (5 feedings)	
Fourth month -----	12½	22	8	3	6 ounces (5 feedings)	
Fifth month -----	14	24½	7½	3	6¼ ounces (5 feedings)	
Sixth month -----	15¼	28	4	2	6½ ounces (5 feedings)	
Seventh month -----	16½	28	4	1	8 ounces (4 feedings)	
Eighth month -----	17½	28	4		8 ounces (4 feedings)	

Ninth Month--The baby should be getting 32 ounces of whole boiled milk a day with no water or sugar added. (Some babies can take the whole milk by the time they are six months old.)

*Care and Selection of Nursing Bottles*

The selection and the care of the nursing bottles is a very important part of infant feeding. The bottles should be free from corners so that every part can be easily cleaned with a bottle brush. Milk left in the bottle after a feeding should be emptied and not used for the baby at a later feeding. The bottle should be rinsed, filled with cold water and put away until several can be washed at once. The bottles should be washed in hot soapy water with the aid of a brush, rinsed in hot water and placed in a large covered pan until the entire supply for the day can be sterilized. A cloth folded several times or a wire or wooden rack should be placed in the bottom of the sterilizing pan so as to prevent direct contact of the bottles and the bottom of the pan. The bottles should be covered with water, brought slowly to the boiling point, and boiled for 20 minutes. A pressure cooker can be used to advantage for sterilizing the bottles and other equipment used in preparing the baby's food.

*Nipples*

The nipples should be of a type that can be easily cleaned. The holes should be of medium size so the milk or water can drip through easily but does not run in a stream. They should be rinsed with cold water after each nursing and washed like the bottles, in hot soapy water and turned inside out, then rinsed, dropped into boiling water for a few minutes, removed, placed in a dry sterile jar and covered.

EQUIPMENT NEEDED IN PREPARING MILK FORMULA

The milk supply for the entire 24-hour day should be prepared at one time, and measured into as many bottles as there will be feedings during the day, if possible. At feeding time the bottle of milk can easily be warmed by being placed in a pan of hot water. A few well chosen articles will make it easier to prepare the formula. Mothers who must prepare bottle feedings should try to have the following equipment:

1½ to 2 quart double boiler

Bottle brush

Funnel

Strainer

Glass measuring cup

1 tablespoon

1 large spoon (non-tarnishing)

Bottles with the ounces marked (as many bottles as there are number of feedings for the day)

A nipple for each bottle

A cork for each bottle

Jar for sterilized nipples

Jar for used nipples

Pan for sterilizing bottles

Measuring cups, pans, bottles, nipples and other equipment used in preparing a baby's food should be carefully sterilized by boiling before being used.

**REGULAR FEEDING IS IMPORTANT**

The baby should be trained in the proper eating habits from the very beginning. After the second day he should be fed regularly. If he is asleep at his eating time, he should be awakened gently and fed. This will help to train him in his sleeping as well as his eating habits. It is well to keep the baby awake while nursing so that he does not become dependent on sucking to fall asleep.

Most physicians put a healthy baby of average weight (seven to eight pounds) on a four-hour schedule at the very beginning. (See page 24). Then, when the baby weighs about 12 pounds, his 2 a. m. feeding is omitted and he is given only one night feeding, the 10 p. m. feeding.

If for some reason the baby must have food more often than every four hours, he is usually put on a three-hour schedule (see page 17) until he can go to a four-hour schedule. He should be able to do this by the time he is three months old. No normal baby who can get a good milk supply should be fed more often than every three hours. Premature and weak babies must be fed more often. The condition of each baby determines what and how often he must be fed. But all babies need to be fed regularly. Company, visiting, or other things should not be allowed to interfere with regular feeding. Doing things at regular times, some like to say "by the clock," is the first and most important rule in forming good habits.

Babies are born without habits but start forming a set of their own the day they are born. These habits may be good ones or bad ones. It is for the parents to say which they shall be. Habits are an important matter, for the child's life will be ruled by the habits he forms as a baby.

The regularly fed baby has a better appetite, digests and assimilates his food better and will, with regular eating habits, be on the road to establishing other regular habits which help to build a wholesome individual. Thus the mother will be spared the endless trouble that is present when children are not properly trained.

The baby needs to take a reasonable amount of time for eating, but should not be allowed to dawdle. No one should try to amuse or otherwise disturb him during mealtime. He should early become accustomed to having a happy, undisturbed meal. The baby may want to stop to get his breath or to rest a moment. After such a rest period, the milk should be offered again, but not forced. When he refuses food, it should



Chart I.

**DAILY FEEDING CHART**  
3-Hour Schedule

Age	6 a. m.	8 a. m.	9 a. m.	12 Noon	3 p. m.	6 p. m.	10 p. m.	2 a. m.
First Week -----	X		X	X	X	X	X	X
Second and Third week -----	X	½ t. cod- liver oil	X	X	X	X	X	X
Fourth week -----	X	1 t. cod- liver oil 1 t. orange or 2 t. to- mato juice	X	X	X	X	X	X
Second month -----	X	1 t. cod- liver oil 2 t. orange or 4 t. to- mato juice	X	X	X	X	X	X

X—Bottle or Breast Feeding.

t—Teaspoon.

T—Tablespoon.

Orange and tomato juice should be strained and diluted with an equal amount of cool boiled water during the first six weeks it is given, or longer.



Fig. 1.—A Well Nourished Baby.

be put away. He knows when he has had enough. If he cries before the next feeding time, examine his surroundings to make sure that nothing is hurting him but do not pick him up to cuddle or rock him. That ruins every thing. If he does not take his entire feeding, he will probably take all of the next one. If he continues to leave a part of his food, but otherwise seems well and happy, watch his weight. Some babies need more food and some less to gain steadily.

When a baby continues to have a poor appetite, it is well to take him to the physician to find out whether or not there is anything wrong.

#### WATER FOR THE BABY

Every baby needs water. Many times babies cry because they are thirsty, not hungry. One to three tablespoonfuls of cool, but not cold water, should be offered to the baby several times each day. It is always safest to boil the water to make certain that no harmful germs are present. A fresh supply of water can be boiled each day, placed in a sterilized jar and kept on hand for this purpose.

Sugar should not be added to the water given to a baby.

#### IS THE BABY THRIVING?

During the first months the best sign of the baby's condition is his gain in weight. Regular increase in weight is more important than the average weight. The average baby weighs

7 to 7½ pounds at birth. He loses weight during the first week and thereafter should gain steadily. An average baby should gain from four to six ounces a week; however, babies vary and "average" figures cannot be taken too seriously. A fat baby may not be as healthy as a smaller child who has firm flesh. If the baby does not gain, it is evident that he is not getting enough to eat and if he gains more than six ounces a week he is probably getting a bit too much. He should double his birth weight at six months and triple it at the age of one year.

If, in addition to a satisfactory gain, the baby seems satisfied with his feedings, sleeps well, has normal bowel movements, has a good color, and does not cry without cause, the mother may be satisfied that he is getting enough food.

#### OVERFEEDING

Restlessness, peevishness and chewing of fists are not always signs of hunger. They may be warnings that the child is suffering from pain caused by too much food. A baby may be overfed either by being fed too often or by being given too much food at a feeding. If he gains too rapidly he is probably being overfed and may develop colic. If he refuses to finish his bottle several times in succession, it is almost certain that the quantity is too great or the formula is too concentrated. Much of the colic and vomiting in babies is due to overfeeding.

#### UNDERFEEDING

Underfeeding may be caused either by not feeding enough of the right food or by feeding the wrong kind of food. Underfed babies usually sleep shorter periods and fret and cry before the regular period (not because of poor feeding habits but because of continuous hunger). If the baby fails to make regular gains in weight, his food either needs to be increased in quantity or changed to suit his needs.

#### COLIC

Many babies suffer from colic and mothers wonder why. There are many things which cause colic, but the most common causes are:

1. Too much food
2. Food too concentrated
3. Unbalanced diet
4. Cold milk
5. Swallowing air
6. Chilling the body

7. Poor habits of mother
  - a. Unbalanced diet
  - b. Lack of emotional control
  - c. Lack of outdoor exercise.

If a baby actually has colic something should be done about it. Remember above all things that there is no such thing as "three month colic," or any other colic with a time limit to it. If a baby has colic he will continue to have it until he is able to digest his food properly. In most cases, colic can be cured in a very short time.

Sometimes babies eat too fast or swallow air and suffer pain after a feeding. The mother should guard against this. Holding the baby up over the shoulder after he nurses and patting him on the back will help him bring up swallowed air.

#### RICKETS

Rickets is a disease which prevents the bones and teeth from forming and hardening as they should. It also affects the muscles and weakens the general condition of babies and young children. This disease works slowly and its danger is often overlooked. While it is not a disease that kills in itself, it weakens the body and makes it more susceptible to diseases that cause many deaths among children.

Rickets is most often found in bottle-fed babies; however, breast-fed babies whose mothers have not had the proper care and food during pregnancy or while they are nursing them may be born with rickets, or may develop it. Babies who are kept on the bottle or breast too long and are not given supplementary foods at an early age are likely to develop rickets. This disease usually appears in children between the ages of five months and two years.

Since the bones of a child who has rickets are softer than is normal, they tend to become deformed and bowed by the pull of the muscles upon them. Severe deformities of this nature may last throughout life. Faulty posture is often a result of rickets. The common idea that bowlegs are due solely to standing or walking too soon is not true. Bowlegs are due primarily to rickets.

*Symptoms*—A baby suffering from rickets usually perspires a great deal. Sweating of the head may be one of the early signs. There are, however, many symptoms and not all of them appear in one baby. Restlessness, irritability, flaring of the ribs and a protruding abdomen are other common sym-

toms. As the disease continues, the bony formation of the body is more and more affected. The baby who has rickets often does not develop teeth until the twelfth month or even later. Too, he may begin sitting up and walking later than do most children.

Mild rickets, if discovered in time, may be cured. It is of course much easier and safer to prevent the disease by making sure that the baby has a satisfactory milk supply, plenty of sunshine, and cod-liver oil, and that the needed supplementary foods are added to his milk diet at the proper time.

#### COD-LIVER OIL

Cod-liver oil and haliver oil, in all of their forms, are rich sources of both vitamins A and D. Vitamin A helps promote growth, builds resistance to infection and promotes general well being. Vitamin D is necessary for forming and maintaining the bones and teeth. It also aids in the development of sound muscles and nerves. Since these vitamins are so necessary for good growth and health, babies should be given cod-liver oil from the time they are two or three weeks old. Cod-liver oil, which is often called bottled sunshine, is a food, not a medicine and should be given every day, especially during the winter months. Fall and winter babies have special need for the protection it gives.

Cod-liver oil should be given in small amounts at first until the child becomes accustomed to the flavor, then gradually increased depending on the age of the child and the type of oil given. (Most mothers prefer giving cod-liver oil when all the baby's clothes have been removed for his bath as it is difficult to remove cod-liver oil stains from clothing).

Mothers often make the mistake of thinking that their babies do not need cod-liver oil because they are fat. Fat babies sometimes need it most. Babies can build fat without building strong bones and good resistance to disease. The physician can best advise a mother as to whether or not her baby needs cod-liver oil.

No mother need fear that cod-liver oil will upset her baby; neither need she fear that the baby won't like it. While even the odor of the oil may be objectionable to the mother, babies develop a liking for it and become actually fond of it.

#### SUN BATHS

There is a substance in the skin which produces vitamin D when exposed to direct sunshine. So, during the summer months, sun baths can supply the necessary vitamin, and cod-

liver oil is not usually needed. Since the beneficial sun's rays cannot act through clothing or ordinary window glass, the baby's body should be uncovered and exposed directly to the sun's rays. This must of course be done very gradually.

Sun baths may safely begin when the baby is a month old. The skin is very tender and great care must be taken not to allow it to sunburn. The sun baths should begin with only a two-minute exposure the first day. An extra minute can be added each day until the one-half hour limit is reached. One-half hour is sufficient time for a sun bath. Sun baths should never be given when the sun is too hot. In cool weather, the time between 11 and 2 o'clock is most suitable. During the summer time sun baths before 9 a. m. or after 4 p. m. are probably most desirable. This, of course, depends entirely upon the temperature.

#### **BABIES NEED SUPPLEMENTARY FOODS**

Nature protects the very small baby by storing in its body before birth a reserve supply of materials which are not supplied in needed amounts by milk. This reserve supply, however, lasts for only a short time. As the baby grows, the needs of his body increase. Even though a baby may be fat, the lack of sufficient iron in the milk may result in anemia, or the absence of sufficient minerals and vitamins may cause rickets, scurvy or other disorders. Both breast- and bottle-fed babies need other foods besides milk at early age. Milk must, of course, furnish the main food, but other foods that supply what milk lacks should be added to the diet. (See chart I, page 17 and Chart II, page 24.)

Physicians differ in their opinion as to the age at which babies should be given solid food.

If babies are given foods other than milk at an early age it is usually fairly easy to accustom them to taking the variety of food they need. If nothing but liquid is given up to nine months or a year, it is often extremely difficult to get a child to take solid food.

When a baby weighing 15 pounds at three months is getting 28 to 32 ounces (1 quart) of milk and is still hungry, he does not need more milk. He needs supplementary food. For such a baby it seems wiser to provide additional energy material in the form of cereals, and bulk in the form of vegetables and fruits.

TEACHING BABIES TO EAT SUPPLEMENTARY FOODS

Adding new foods to the baby's diet should cause no upset nor present any difficulty if each food is introduced gradually; only a taste at first, when the baby is hungry. The amount should be increased a little each time until the needed amount is given. (See Charts I and II.)

If the baby does not like the food offered, do not become disturbed but offer another taste of the same food the next day. If he refuses a food do not give him a different one, hoping to get him to eat something.

A child's dislike for certain foods can often be traced to the attitude of the one responsible for feeding him. If the manner of the adult is matter-of-fact and the face expresses cheerfulness and general satisfaction, there are fewer food problems.

Do not give your baby "tastes" of foods not suitable for him. There are certain foods that grown people eat that his digestive tract is no more able to handle than are his brains and muscles ready to do adult work. For this reason, we select and prepare his food in a special way. If the baby is never allowed to taste candy, ice cream and other foods not suitable for him, he will not miss them.

*Cod-liver Oil*—(See page 21).

*Egg Yolk* is added to the baby's diet because it is a good source of iron in a form easily used by the body. The baby's reserve supply of iron is used up before he is six months old and since milk does not supply enough of this mineral, a supplementary food containing it must be given.

When egg yolk is first added to the baby's diet the quantity is so small that most mothers prefer to add it to the milk feeding if the baby is bottle-fed or to the cereal feeding. It can be given raw, soft cooked, poached or hard cooked and made into a paste and fed from a spoon.

When the baby is about a year old, he is usually ready for the whole egg. It should be remembered that the white of egg, like all new foods, should always be given in very small amounts at first.

*Orange and Tomato Juice*

Vitamin C is needed by all infants for the building of good teeth as well as a good bone structure and for the prevention of scurvy. Milk is a poor source of this vitamin and since boiling tends to destroy vitamin C, it is necessary that a food supplying it be early added to the baby's diet. At about the fourth

**DAILY FEEDING CHART**  
4-Hour Schedule

Age	6 a. m.	8 a. m.	10 a. m.	2 p. m.	6 p. m.	10 p. m.	2 a. m.
First week ----	X		X	X	X	X	X
Second and Third week ---	X	½ t. cod-liver oil	X	X	X	X	X
Fourth week ---	X	1 t. cod-liver oil. 1 t. orange or 2 t. tomato juice	X	X	X	X	X
Second Month -----	X	1 t. cod-liver oil. 2 t. orange juice or 4 t. to- mato juice	X	X	X	X	X
Third Month -----	X	1½ t. cod-liver oil. 1 T. orange or 2 T. tomato juice	X	½ t. egg yolk X	X	X	
Fourth Month -----	X	2 t. cod-liver oil. 2 T. orange or 4 T. tomato juice.	½ to 1 T. cereal X	1 T. egg yolk X	X	X	
Fifth Month -----	X	2 t. cod-liver oil. 2 T. orange or 4 T. tomato juice	1 to 2 T. cereal X	2 T. egg yolk. 1 t. thin vegetable pulp X	1 to 2 T. cereal X	X	
Sixth Month -----	X	2 t. cod-liver oil. 2 T. orange or 4 T. tomato juice	2 to 3 T. cereal X	1 egg yolk. 1 T. vegetable pulp. Hard bread X	1 T. cooked fruit pulp. 2 to 3 T. cereal X	X	
*Seventh through eleventh Month -----	X or milk	1 T. cod-liver oil. 3 T. orange or 6 T. tomato juice	3 to 4 T. cereal X or milk	1 egg yolk*** 2 to 3 T. vegetable pulp. Hard bread X or Milk	1 to 2 T. fruit pulp 3 to 4 T. cereal Milk	X**	
Twelfth Month -----	Milk	1 T. cod-liver oil. 4 T. orange or 8 T. tomato juice	3 to 4 T. cereal Milk	1 egg yolk. 3 T. vegetable pulp. 2 T. baked potato Hard bread Milk	2 to 4 T. fruit pulp. 3 to 4 T. cereal Milk		

X—Bottle or Breast Feeding.

t—Teaspoon.

T—Tablespoon.

Orange and tomato juice should be strained and diluted with an equal amount of cool boiled water during the first six weeks it is given, or longer.

\* Weaning should begin during the 7th or 8th months (milk should be given from a cup at some of the feedings).

\*\* When the baby is 7 months old, he no longer needs a 10 p. m. feeding. Let him sleep through, if he will.

\*\*\* 1 to 2 T. ground liver pulp can be substituted for egg yolk occasionally.

Cool (not cold) boiled water should be offered to the baby at regular intervals between feedings.



week, either strained orange or tomato juice should be given to babies to supply this vitamin. At the beginning, the juice should be diluted with an equal amount of boiled water. (More may be added if one desires.) To begin with, one-half teaspoon of strained juice daily is sufficient. This amount should be gradually increased until 2 to 4 tablespoons are given at six months and 4 to 8 tablespoons at one year.

Many people think orange juice and tomato juice are given merely as laxatives, and that prune juice can take their place. This is not true.

*Cereals* are a good energy food and since the baby becomes better able to digest starch during the third or fourth month, it is wise to add cooked cereal to his diet at about this time.

The cereal should be thoroughly cooked (for about an hour) in a double boiler. It should then be strained and fed from a spoon with nothing added except a little whole milk. Sugar should not be used. If cereal is properly cooked it will have a natural sweet flavor of its own. If a mother has a pressure cooker, she will find it very helpful in cooking cereals.

*Vegetables* are valuable because of their minerals, vitamins and roughage. By the time the baby is five months old he will have learned to take cod-liver oil, orange and tomato juice, egg yolk and cereals and should be ready for vegetables. The juice and sieved pulp of any easily digested vegetables such as carrots, peas, asparagus tips, spinach, chard and green beans may be fed.

It is difficult to say just how long vegetables given to a child should be strained, but some children are ready for finely chopped vegetables at the age of one year. The baby's stools should be watched and if the vegetables come through undigested, one should continue to strain the vegetables a little longer and then try chopped vegetables again. Vegetables should be pureed or strained while the baby cannot or will not chew, but one should give him a chance to chew as soon as he can be reasonably expected to do so.

When he is six months old, he may be given baked potato in place of cereal occasionally. Potato should, however, never replace a green vegetable.

*Fruits*, like vegetables, should be strained before being given to the baby. Most physicians recommend that prune juice, apple sauce or the pulp of other mild fruits such as apricot, peach or ripe bananas be given when the baby is six or seven months old.

*Hard bread* permits good exercise in biting and chewing and may safely be given to the baby as soon as he begins to cut teeth.

## TEETHING

The healthy baby should be able to cut his teeth without suffering any serious upset. If the baby is ill with fever, vomiting, diarrhea or other severe symptoms, the illness may be due to something other than the teeth and should have proper attention. The teeth begin to develop about six months before birth. At birth each tiny tooth of both sets has already begun to form. Nearly all the first set are already partly or wholly hardened. As the baby grows, the teeth grow also, and if the baby is healthy and well developed, the teeth are ready to cut through the gums at the normal time.

The first set of teeth are called temporary, baby, milk or deciduous teeth. They begin to come in or erupt at about the fourth month and continue to two years. They should remain sound until they are shed naturally between the ages of 6 and 12 years.

There are 20 temporary teeth; 10 in the upper jaw and 10 in the lower. The first to appear are usually the lower central incisors, followed a little later by the upper central and lateral incisors. By the time a baby is one year old he usually has six or more teeth.

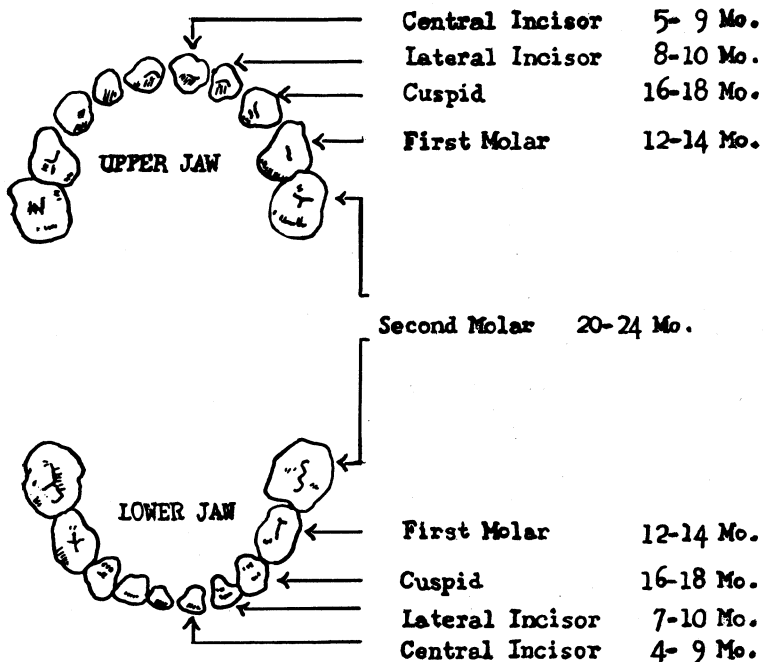


Fig. 2.—Age at which Temporary Teeth Come in, or Erupt.

The age at which babies cut teeth and the order in which the teeth appear varies. The mother need not worry about her baby if it does not follow the average given above, but if he has no teeth at the end of the first year, it would be well to see a physician.

#### WEANING

A baby can be safely weaned by the time he is seven or eight months old, if he is taking solid food well and is in a normal condition, and if a good clean milk supply is available. The old idea that babies should not be weaned during hot weather is wrong. If a baby has been prepared for weaning and if good, well cared for milk is on hand, there is no reason for the baby not to be weaned during the summer.

To begin weaning a baby, replace one breast or bottle feeding with a cup of diluted boiled milk. In a week replace another feeding and gradually continue until all feedings have been replaced by boiled milk.

#### THE BABY'S FIRST YEAR FOODS

The daily feeding schedules given on pages 17 and 24 are offered as guides suggesting the quantities of supplementary foods and the time at which they are usually introduced into the baby's diet. Since the food needs vary with each baby and the type of milk feeding he gets, your physician may need to make changes that will meet the particular needs of your child.

Most babies can take all of their first year foods by the time they are seven or eight months old. The foods should be added gradually and increased regularly so that the child will be getting the following diet daily by the time he is 12 months old.

Milk—1 quart

Cereal—4 to 6 tablespoonfuls

Egg yolk—1 whole yolk

1 or 2 tablespoonfuls ground liver may occasionally  
be substituted for the egg yolk

Strained vegetables—3 to 4 tablespoonfuls

Fruit pulp—4 tablespoonfuls

Crust of hard bread—with meals

Orange or tomato juice—4 to 8 tablespoonfuls.

Cod-liver oil—1 tablespoonful.

**GOALS FOR THE ONE-YEAR-OLD CHILD**

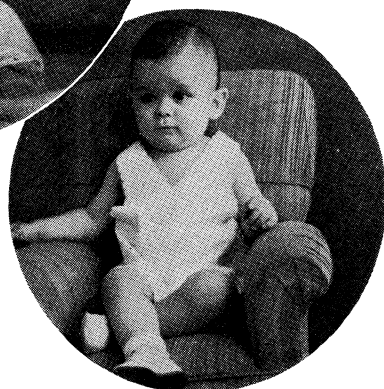
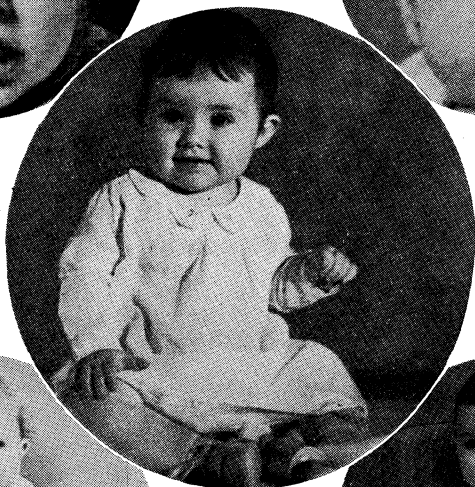
The average well baby of one year who has had the proper care and training can be expected to:

1. Eat and enjoy the foods listed on the feeding schedule, page 27.
2. Eat regularly, taking all his food in three or not more than five meals a day.
3. Drink his milk from a cup.
4. Weigh three times what he weighed at birth.
5. Measure 25 to 33 inches in height.
6. Have six or more teeth.
7. Stand alone and walk with a little help.
8. Go to bed regularly by 7 p. m., and sleep through the night.
9. Take at least one, preferably two, naps each day.
10. Amuse himself with boxes, blocks, and other toys of this type.









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