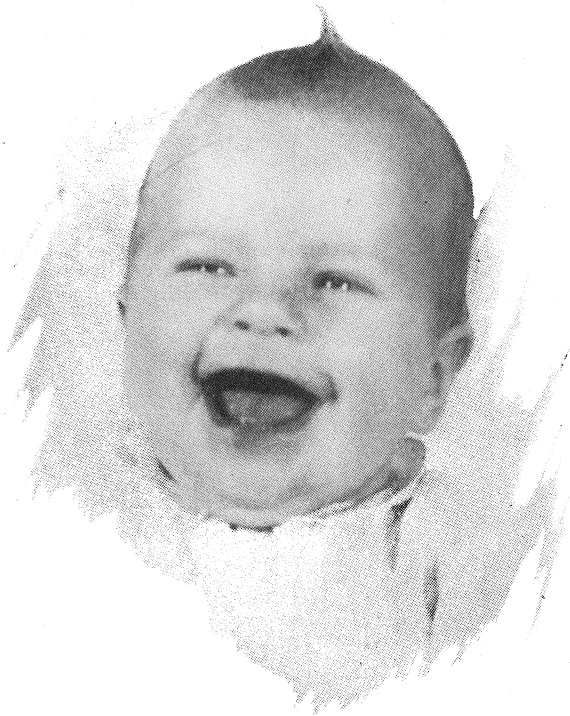


# HAPPY HEALTHY BABIES



CIRCULAR NO 406

1945

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**OKLAHOMA AGRICULTURAL AND MECHANICAL COLLEGE  
COOPERATING WITH  
UNITED STATES DEPARTMENT OF AGRICULTURE  
EXTENSION SERVICE  
SHAWNEE BROWN, DIRECTOR  
STILLWATER, OKLAHOMA**

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

# HAPPY, HEALTHY BABIES

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## DIET IS IMPORTANT FOR THE EXPECTANT MOTHER

Babies today are the men and women of tomorrow, and these babies have a better chance of being well-built and their health protected, if they, during infancy, receive the proper food at the proper time. First, and of foremost importance is that the mother go to her family physician as soon as she is pregnant.



and their health protected, if they, during infancy, receive the proper food at the proper time. First, and of foremost importance is that the mother go to her family physician as soon as she is pregnant.

If the 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 the physician's orders, she may be reasonably sure that her child will be able to build up a sound and normal body and that she herself is better prepared for motherhood. Each mother should include the following in her daily diet, unless the doctor orders a special diet:

**MILK AND MILK PRODUCTS**—One quart as a drink or in cooking.

**POTATOES, LEAFY VEGETABLES, OTHER VEGETABLES, FRUITS**—Potatoes and at least two other vegetables daily. Use green, leafy vegetables such as cabbage and spinach and deep yellow vegetables three or four times during the week.

**TOMATOES, ORANGES, GRAPEFRUIT**—Citrus fruits such as oranges, grapefruit, tangerines, lemons, and fresh or canned tomatoes, should be served at least once in the daily diet. In addition, include one or two other fresh, canned, or dried fruits.

**MEAT, POULTRY, FISH, EGGS OR DRIED BEANS OR PEAS**—Use one liberal serving ( $\frac{1}{4}$  pound at least) daily. In addition to muscle meat, organs, such as liver and kidney may be used, or fish and poultry.

Dried beans or peas may be used sometimes in place of meat for lunch or supper, even though meat has been served for dinner.

**BREAD, FLOUR AND CEREALS, MOST OF WHICH SHOULD BE WHOLE GRAIN OR ENRICHED**—Use whole grain or restored cereal, alone or combined with meat, cheese, or eggs as the main dish in meals occasionally and in puddings for dessert. Use whole grain and enriched bread.

**FLUIDS**—about 2 quarts daily. This includes 1 quart of milk, fruit juice, beverages, and water. Your physician may wish to increase or decrease this amount. Unless he advises differently, you may use moderate amounts of tea and coffee, but they should not replace milk.

## FEEDING THE BABY

### Breast Feeding

If the mother's diet includes plenty of the protective foods—milk, fruits, vegetables, eggs, meat, and whole grain bread or cereal—she may as a rule eat as much as she likes of other foods. She should remember, however, that strongly flavored foods may give the breast milk a taste that may make the baby refuse it.

The first and most important step toward successful breast feeding should be taken early in pregnancy; it is the mother's decision that she is going to nurse the baby. Successful nursing largely depends on the mother's health and her attitude toward nursing. The mother should sleep at least eight hours every night and have an hour's rest in the daytime. She should try to avoid worry and emotional upsets, and she should select her food with the baby's growth and health in mind, as well as her own health. She should make every effort to regulate the bowels by means of food, exercise, and regular habits, and should drink plenty of water or other fluid.

Breast feeding gives a baby a better chance for steady normal growth during the first weeks and months of life than does artificial feeding. Most mothers can nurse their babies the first 6 or 7 months. If the baby must be artificially fed, the doctor should recommend a formula for bottle feedings. Your baby's feeding problems are different from those of other babies, and, in fact, vary at different times. Your physician is the only qualified adviser in these matters which affect your baby's health.

### Bottle Feedings

If the baby must be fed a milk mixture from birth, it is helpful if the mother has a set of utensils to be used especially for preparing the milk mixture, and these utensils should be kept together and not used for anything else. Utensils needed include (1) those needed for feeding; (2) those needed for preparation; (3) those needed for keeping the equipment in good condition.

#### EQUIPMENT USED FOR PREPARING MILK MIXTURE

**A SAUCE PAN**—use to mix and boil the milk mixture.

**FUNNEL**—needed in pouring milk mixture from sauce pan into the nursing bottles.

**LARGE MEASURING CUP**—marked to measure ounces is convenient for measuring milk and water, but a nursing bottle marked in ounces is also satisfactory.

**BOTTLES WITH OUNCES MARKED**—(as many bottles as there are number of feedings for the day).

**A NIPPLE AND CORK OR STOPPER** for each bottle.

**TABLESPOON AND TEASPOON NEEDED FOR MEASURING SUGAR**—measuring spoons which can be bought in sets of four fastened together are inexpensive and are accurate.

**KNIFE**—for leveling spoonful of sugar.

**STRAINER**—a scum may form on fresh milk when it is boiled, therefore a strainer is needed.

**CAN OPENER**—if evaporated milk is used can opener is needed.

**EGG BEATER**—may be needed to mix ingredients.

**JAR FOR STERILIZED NIPPLES.**

**JAR FOR USED NIPPLES.**

**PAN FOR STERILIZING BOTTLES.**

#### PREPARING MILK MIXTURE

Always have a copy of the doctor's written order for the feeding fastened up so that you can refer to it every day.

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

For the baby who must be artificially fed, it is of utmost importance that the milk mixture be boiled to make it safe.

Boiling milk kills all of the disease germs that the milk contains. It also makes milk more digestible. After milk has been boiled or cooked 3 minutes in a single boiler, or cooked for 20 minutes in a double boiler, it is made more digestible.

The baby, on the first day of life, is usually given water, sweetened or unsweetened. On the second and third day of life, milk is begun—1 ounce of milk for each pound the baby weighs. That is, a 7-pound baby gets 7 ounces of milk in 24 hours, with water and sugar added. 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 doctor's directions—is usually suited to the baby under nine months of age. After the baby is nine months old, and sometimes earlier, cow's milk (whole) can usually be given without being mixed with water and sugar.

Evaporated milk is whole milk from which some of the water has been removed. This will keep without refrigeration until the can is opened. When evaporated milk is diluted with an equal amount of boiled, cooled water, it has practically the same food value as fresh, whole milk, and may be used in the same way as fresh, whole milk in preparing the milk mixture for the baby according to the doctor's formula. Boiling is not necessary since evaporated milk has already been heated and sterilized. Evaporated milk should not be confused with sweetened condensed milk which is not a suitable food for most babies.

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 a 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. After calculating the total 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 4-months'-old baby weighing  $12\frac{1}{2}$  pounds, the following subtraction will be made:

Total amount of milk mixture given in 24 hours; amount given at each feeding (6 ounces) multiplied by number of feedings (5) is 30 ounces.

Milk required— $1\frac{3}{4}$  ounces multiplied by baby's weight ( $12\frac{1}{2}$  pounds) is 22 ounces. Water to be added—8 ounces.

Many doctors give milk undiluted with water from the sixth or seventh month on. The water is then given between 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 if the infant is slow in taking the full amount at each feeding. The milk mixtures should then be boiled. When a bottle of milk mixture is taken out of the refrigerator, it is necessary to warm it for the baby. Stand the bottle of milk mixture in a small, deep saucepan of warm water or in the special bottle warmers. Heat the mixture rapidly. It is not necessary to wait until the water boils. Shake the bottle several times to make sure the bottle is warmed through. The temperature of milk may be tested by letting a few drops trickle from the nipple onto the inside surface of the mother's wrist, where it should feel pleasantly warm but not hot.

It may be a temptation to lay the baby down when feeding him, but there are several reasons for holding him instead. For one thing, the bottle is almost sure to slip if it is not steadied; the baby may drowse off and not finish his bottle, unless he is kept awake, and it is not good for the baby to associate having his bottle with going to sleep. It is a good thing for the mother to have these periods of relaxation, and for the baby to have the satisfaction of being held and cuddled. The length of time it takes to empty a bottle varies with age (usually about 5 to 20 minutes). In giving the baby his bottle, be sure that the bottle is held so that the nipple is completely filled with milk. If it takes longer than 20 minutes to consume his milk, make sure the hole in the nipple is not clogged or too small as the baby would have to work so hard he would be tired before he has enough. If the holes are too large, the milk will come so fast that the baby will want to suck some more after he has had all of his milk.

**Milk Mixtures for Babies from Birth to Eight Months**  
**Based on Babies' Weight.**

| Age                      | Av. weight (Pounds) | Whole Milk (Ounces) | Boiled Water (Ounces) | Sugar (Level tbsps.) | Ounces per feeding 3-hr. Sched. | Ounces per Feeding 3-hr. Sched. |
|--------------------------|---------------------|---------------------|-----------------------|----------------------|---------------------------------|---------------------------------|
| 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                  | 13                  | 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)     | 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                     |                      | 3 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.)



The hours selected for feedings, whether it be the three or four hour schedule, should be those best suited to the individual mother. The hours suiting the greater number of mothers are:

*For four-hour feedings*

6:00 a. m.  
10:00 a. m.  
2:00 p. m.  
6:00 p. m.  
10:00 p. m.  
2:00 a. m.

*For three-hour feedings*

6:00 a. m.  
9:00 a. m.  
12:00 Noon  
3:00 p. m.  
6:00 p. m.

As soon as the baby will sleep through the 2:00 a. m. feeding—usually by the second month but sometimes earlier—he will need only five feedings in 24 hours. Five feedings are all that will be necessary, and the number will be continued until he sleeps through the 10:00 p. m. feeding, usually at the age of four or five months. After that, only four feedings a day are required.

When the baby is nine months old he will be taking a variety of other foods, so it is not necessary to increase the amount of milk. 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.



**SUPPLEMENTARY FOODS**

**COD LIVER OIL**—should be given when the baby is two or three weeks old. Cod liver oil and sunlight are needed if the baby is to be protected from rickets.

**ORANGE JUICE OR TOMATO JUICE** should be given to every baby about the fourth week. Begin with a teaspoon of orange juice once a day. Increase this gradually to 1 tablespoon twice a day by the time the baby is three months old. Dilute orange juice and tomato juice with an equal amount of boiled water at first. If tomato juice is used, give twice as much as orange juice. Both should be strained.

**COOKED CEREAL** may be added about the fourth month. Begin with  $\frac{1}{2}$  to 1 tablespoon of a well-cooked, strained cereal such as oatmeal or farina. Increase until the baby gets 1 to 2 tablespoons. Nothing should be added to the cereal except a little salt and whole milk. Make the cereal thicker as the baby gets used to it.

**EGG YOLK** is begun about the fourth month; some doctors give it the third month. When egg 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 baby is bottle fed or to the cereal feeding. It can be given raw, soft cooked, poached, or hard cooked. One satisfactory way of preparing the yolk is to cook the egg in the shell in water just below the boiling point for 20 to 25 minutes. Add milk to the yolk to make a paste.

**GREEN AND YELLOW VEGETABLES** should be started in the diet the fifth or sixth month. Begin with a teaspoon of pulp and gradually increase it until one tablespoon is being taken. Vegetables that can be given are spinach, chard, beet greens, carrots, green peas, green lima beans, asparagus, and string beans. Boil vegetables long enough to make them tender (test by piercing with a fork). Use only a little water slightly salted and serve the water with the vegetables. Put the cooked vegetables through a sieve or strainer.

**STEWED FRUIT** can be started about the seventh month. Begin by giving  $\frac{1}{2}$  to 1 tablespoon and gradually increase to 2 tablespoons. The fruit should be cooked until tender and run through a sieve. Some of the fruits which can be used are apricots, apples, prunes, pears, and peaches.

**DRY TOAST OR ZWIEBACK** may be given after the first tooth has come.

**SIMPLE DESSERTS** such as custards or gelatin puddings are often given to babies about the tenth month.

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,<br>1 t. orange<br>or 2 t. tomato juice | X       | X       | X       | X       | X        | X       |
| Second month . . . . .          | X       | 1 t. cod-liver oil<br>2 t. orange<br>or 4 t. tomato 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.

*Happy, Healthy Babies*

Chart II.

**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. tomato 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<br>X | X       | X        |         |
| Fourth Month . . . .        | X       | 2 t. cod-liver oil, 2 T. orange or 4 T. tomato juice       | ½ to 1 T. cereal<br>X | 1 T. egg yolk<br>X | X       | X        |         |

|   |              |  |                                  |  |  |     |
|---|--------------|--|----------------------------------|--|--|-----|
| Fifth Month . . . .                     | X            | 2 t. cod-liver oil. 2 T. orange or 4 T. tomato juice | 1 to 2 T. cereal<br>X            | 2 T. egg yolk<br>1 t. thin vegetable pulp<br>X                           | 1 to 2 T. cereal<br>X                          | X   |
| Sixth Month . . . .                     | X            | 2 t. cod-liver oil. 2 T. orange or 4 T. tomato juice | 2 to 3 T. cereal<br>X            | 1 egg yolk. 1 T. vegetable pulp. Hard bread<br>X                         | 1 T. cooked fruit pulp. 2 to 3 T. cereal<br>X  | X   |
| *Seventh through eleventh Month . . . . | X<br>or milk | 1 T. cod-liver oil. 3 T. orange or 6 T. tomato juice | 3 to 4 T. cereal<br>X<br>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<br>Milk | X** |
| Twelfth Month . . . .                   | Milk         | 1 T. cod-liver oil. 4 T. orange or 8 T. tomato juice | 3 to 4 T. cereal<br>Milk         | 1 egg yolk. 3 T. vegetable pulp. 2 T. baked potato<br>Hard bread<br>Milk | 2 to 4 T. fruit pulp. 3 to 4 T. cereal<br>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.

### WEIGHT

One of the best signs of good health in the baby is steady gain in weight. It is not so important how much he weighs or how his weight compares with that of other babies of the same age because babies differ in what they should weigh.



The average initial loss during the first week of a baby's life is 10 ounces or about 1/10 of his weight at birth.

By the 14th day, his weight is usually regained. At the end of the fifth month, his weight is about doubled. At the end of the first year, his weight is about trebled; at the end of the second year, his weight is about quadrupled.

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 daily diet by the time he is 12 months old:

Milk—1 quart

Cereal—4 to 6 tablespoons

Egg yolk—1 whole yolk

Ground liver—1 to 2 tablespoons; may occasionally be substituted for egg yolk

Strained vegetables—3 to 4 tablespoonfuls

Fruit pulp—4 tablespoonfuls

Crust of hard bread

Orange or tomato juice—4 to 8 tablespoons

Cod liver oil—1 tablespoonful.



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