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Infant Care

FEDERAL SECURITY AGENCY
SOCIAL SECURITY ADMINISTRATION

U. S. CHILDREN'S BUREAU
PUBLICATION NO. 8, 1945

See That the Birth of Your Baby Is Registered

The birth of your baby should be registered promptly and properly. This is of the utmost importance and should be done within 36 hours after the baby's birth.

The physician, midwife, nurse, or other attendant is required in every State to report the birth to the local registrar, who will see that the date of birth and the child's name, together with other related facts, are made matters of permanent record.

Birth registration is necessary in order to prove the date of your child's birth and his citizenship. His right to enter school, to go to work, to inherit property, to marry, and to hold office may depend upon proof of age or citizenship or both, and this proof is most readily established by means of a birth certificate.

Proof of age is also necessary in order to obtain certain benefits under the Social Security Act, such as aid to dependent children and old age and survivors insurance.

If no copy of the birth certificate of a child has been received, an inquiry may be sent to the State board of health where the records are filed. By making sure that the birth of every child born to them is registered, parents are protecting the fundamental rights of their children.

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Price 10 cents

Contents

Foreword

ALMOST ALL parents need some help in the important job of taking care of a baby. Parents of a first baby sometimes feel this need very keenly.

This book is intended to help mothers and fathers in taking care of babies—especially a first baby. The ideas expressed here are based on the experience of many doctors, nurses, nutritionists, and psychologists, as well as parents. They make up a body of information accumulated and mellowed over the years, but freshened from time to time as further advances in the art of baby care are made.

During infancy, when health problems are uppermost, the parents will find the doctor best fitted to be their main guide; later, as the child grows older, other sources of advice will be helpful also, such as the school, the church, neighborhood organizations, and boys' and girls' clubs. This book, if it serves its purpose, will help parents understand what their doctor tells them. It is not intended to take the place of the doctor's regular supervision.

Infant Care was first published in 1914 and has gone through seven previous editions—1914, 1921, 1929, 1931, 1938, 1940, and 1942. This new edition is being issued in a double column to conserve paper and cost and in this way to make it possible to provide both a brief index and a durable cover. Certain changes have been made in the nutrition sections after review by Marjorie Heseltine, Consultant in Nutrition.

Aside from these sections, the text is largely that of the edition of 1942, most of which was prepared by Dr. Dorothy V. Whipple and Dr. Marian M. Crane, of the Division of Research in Child Development. Dr. Ethel C. Dunham, Consultant in Pediatrics, wrote the section on the premature baby. The text was reviewed by Dr. C. Anderson Aldrich, Chief of Staff of the Children's Memorial Hospital in Chicago, and Mrs. Aldrich; by Dr. Douglas H. Thom, Director of the Habit Clinic for Child Guidance in Boston; by Dr. Frederick H. Allen, Director of the Philadelphia Child Guidance Clinic; and by the Bureau's advisory committee of pediatricians: Dr. Julius H. Hess, representing the section on diseases of children of the American Medical Association; Dr. Richard M. Smith, representing the American Pediatric Society; Dr. J. H. Mason Knox, representing the American Academy of Pediatrics; and Dr. Howard Childs Carpenter, for many years representing the American Child Health Association until that organization dissolved in 1935.

The work on both the 1942 and 1945 editions was done under the general supervision of Dr. Katherine Bain, Director of the Division of Research in Child Development.

To those who contributed their time and thought to the making of this publication, the Bureau expresses its sincere thanks.

INFANT CARE

CHAPTER

I

The New Baby

CHILDREN can be one of the greatest satisfactions in life. They can give their parents more happiness and also more fun than anything else. Around children develop many home interests that keep the parents together and help maintain their youth and their joy in living.

In order to help your children be healthy and have happy, useful lives you will want to do many things for each child during his babyhood, such as the following:

See that the baby's birth is registered.

See that he has a complete physical examination as soon after birth as possible and another when he is about a month or 6 weeks old.

Take him to a doctor regularly for general supervision.

See that he lives in a home that is healthful.

Supply him with clothes that keep him comfortable and give him freedom to grow and to use his developing powers.

Encourage his development but never try to force him ahead faster than he wishes to go.

Play with him.

Help him develop good habits.

See that he has plenty of undisturbed sleep.

Keep him clean.

Give him as much sunshine and fresh air as the weather permits.

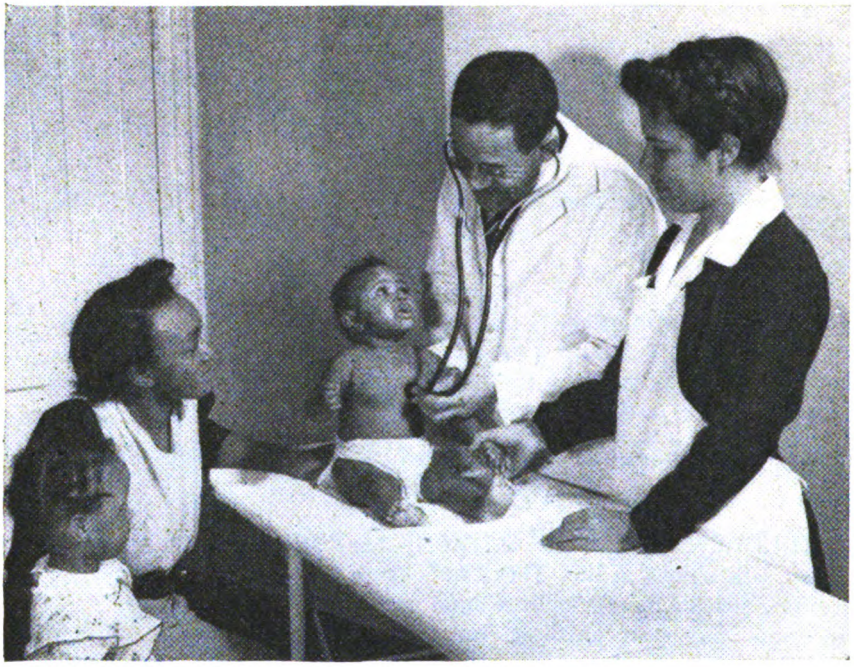
Give him enough clean, good food, at regular times.

Keep him away from all sick people.

Make sure that he is given inoculations to protect him against diphtheria and smallpox (and whooping cough and tetanus, too, if the doctor so advises).

Try to give him a peaceful, happy babyhood. This can best be done by seeing that he lives in a peaceful, happy family.

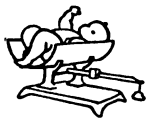
Child care is a great art. It is an important task, perhaps the most important task any parent ever undertakes. The parents have a responsibility not only to their child but also to the community to see that the child grows into an adult who can use fully all the talents and capabilities that he had within him when he was born. The father shares the responsibility with the mother. From the baby's birth they will want to work together to see that this most important job is well done.



Be sure a doctor sees your baby regularly.

You can learn to care for your baby from a public-health nurse.

CHAPTER 2



The Doctor

A YOUNG MOTHER and father need the doctor's help in planning for the health of their baby.

It is a good plan to make the doctor the general adviser and to ask him all questions about the baby. Often he will give a definite answer to a puzzling problem; sometimes just talking over a problem with the doctor may help the mother to find her own answer.

SELECTING A DOCTOR

It is desirable that the doctor, who will be the mother's main guide in caring for her baby, be one who is trained in the care of children. In some communities there are no doctors that specialize in the care of children, and in such places the family doctor will advise the mother.

In any case it is easier for a doctor to give good care to a baby that he has seen frequently and knows than to one that he sees for the first time.

The way a mother will go about selecting the doctor will depend on whether she intends to have a private doctor—whether a specialist or a general practitioner—or to go to a clinic or child-health conference.

If a mother intends to have a private doctor supervise the care of her baby, she must find the right doctor. Sometimes this is easy to do, and sometimes it is not so easy; but it is worth considerable effort.

The things about a doctor that a mother wishes to know are—

Has he been well trained in medicine?

Has he had special training in the care of children?

Has he had experience in the care of children?

These are important things. It is, of course, also desirable to have a doctor who is kind and sympathetic and "has a way with children," besides being well trained and experienced.

After the mother has picked out a doctor—and it is a good plan to do it before the baby is born—she should have a talk with him about (1) when he wants to see the baby, (2) under what circumstances he wishes her to get in touch with him by telephone, and (3) what to do in case of emergency. She should talk over with the doctor what will be the cost of his services. It is best to have a definite understanding with him on this subject.

If a mother intends to go to a clinic or child-health conference and if she lives in a place that has a local department of health, the simplest thing to do is to telephone to this department and ask where the nearest child-health conference is and when it is held.

In small communities a county or a district health department can generally be reached, either by telephone or by mail; or, if there is a public-health nurse in the community, the mother can ask her for the information.

If the mother is unable to get in touch with a local health agency or a public-health nurse she should write to the director of maternal and child hygiene of the State department of health and ask to be referred to the nearest child-health conference.

VISITS TO THE DOCTOR

The baby should be given a complete physical examination by a doctor soon after birth and another at the end of the mother's lying-in period. If the mother is able to have a doctor trained in the care of children, he should make these examinations. If she has a family doctor he may not only care for the mother during her pregnancy and confinement but also supervise the care of the baby.

The first examination shows whether the newborn baby is normal and whether any special care is needed; the second, whether the baby has been doing well during the first weeks and is getting the start he should have.

Throughout the baby's first year he should be seen regularly by a doctor, preferably a pediatrician—a doctor trained in the care of children.

The mother who is not trained cannot know nor recognize many of the early signs of trouble. The doctor looks at the baby with a trained eye and can see whether he shows any signs of trouble to come. A mother may not know just when her baby needs to have his food changed or increased nor when is the best time for him to be given special protection against diphtheria or smallpox. The doctor's advice on these things and many more is of the greatest importance to every mother who would keep her baby well.

During the first half of the baby's first year visits to the doctor should be made at least once a month; during the second half, at least every 2 months.

At these visits the mother will have an opportunity to talk over the baby's diet with the doctor and also any problems that have arisen since the last visit.

Even if there are no special problems, the doctor will want to know at each visit what has happened to the baby since the last visit. It will be helpful to him if the mother is prepared to answer such questions as the following:

Has the baby been well? Has he had any diseases? Any accidents?

Has he been active and playful? Or listless and cross?

Has he been eating well?

Have his feedings been given regularly?

What has he been fed? Is he getting cod-liver oil or some other good source of vitamin D? Is he getting orange juice or some other source of vitamin C?

Does he vomit or spit up his food?

Do his bowels move regularly? How often? What do his stools look like?

Does he sleep well? How many hours? Is he restless during his sleep?

Have any other members of the household been sick?

It will help the mother as well as the doctor if she has written down whatever she thinks she should tell him and any questions she wishes to ask him, so that she will not forget about them.

At the examination the baby should be completely undressed. At this time the doctor or the nurse will weigh and measure the baby. The doctor will observe the baby's general activity and the color of his skin and lips. He will examine every part of the baby's body. He will look at the back, arms, legs, feet, and skin. He will examine the head, eyes, ears, nose, neck, mouth, gums, teeth, tongue, throat, and glands; he will examine the chest, paying special attention to the heart and lungs;

he will carefully feel the abdomen and examine the genitals.

By means of his examination and from what the mother tells him, the doctor can judge whether or not the baby is growing and developing as a healthy baby should.

Sometimes the doctor may want to examine the baby's urine. If he does he will tell the mother how to collect it.

Sometimes he may want to make special tests to find out things about the baby he cannot tell in any other way.

At some time during the baby's first year he will recommend that the baby be given protection against diphtheria and smallpox. Under certain circumstances he will recommend protection against tetanus (lockjaw) and whooping cough. (See p. 104.)

The doctor will keep a record of his findings each time he examines the baby, so that at later examinations he can compare them with the previous ones. This helps him to judge how the baby is growing and progressing and to keep in mind any unusual conditions that he wants to watch.

After the examination the doctor will talk to the mother about the condition of her baby and will make suggestions about his care. If the mother needs further instruction to help her carry out the doctor's suggestions, she can, in many communities, get such help from a public-health nurse.

CHAPTER 3

The Home

BEFORE the first baby arrives in a family the mother and father will want to have a talk about the kind of home they would like to have in which to bring up this baby and also the other children they hope for some day.

A place suitable for a young couple without children is sometimes not very desirable for babies nor for growing children. It is seldom possible for young parents to provide everything they would like their children to have in the way of physical surroundings. It is helpful, however, for them to talk over the things they consider desirable about a house and its location, so that they may work toward a goal.

Many young couples look forward to the time when they can own a home of their own. Such a permanent home planned to meet the needs of all the family is an ideal worth working for. But a rented house, if selected with the needs of every member of the family considered, may be a good substitute.

The things that make a home restful and desirable depend more upon the people in it than upon physical surroundings. Kindliness, consideration for others, peace, order, and cleanliness give a house the atmosphere that makes it a real home. The baby who can grow up in such a home atmosphere is indeed fortunate, for he may well carry all his life the feeling of peace and security he absorbed from his parents and his home.

THE NEIGHBORHOOD

It is only within rather narrow limits that most families can choose the location of their home, as nearly every home must be near the work that supplies the income to keep it going. When there is an opportunity to make a choice, the needs of children in the home should be considered along with the needs of the adults.

Health Conditions

In the City.

The family in the city will want to choose a neighborhood that is free from fumes or heavy smoke from industrial plants, and that is not too noisy. A neighborhood infested with rats, such as is sometimes found near a waterfront, should be avoided.

Unless the family can have a house with a yard, the parents should try to choose a place to live that is near a park or open space where the baby can be taken for sun and outdoor play.

In cities the municipal authorities have the responsibility for the purity of the water and the adequacy of the sewer system and garbage disposal. The family, of course, has the responsibility for keeping garbage covered until it is collected, so that flies do not gather about it.

In the Country.

The family selecting a home in the country should try to choose a house

that is not near a swampy region where mosquitoes can breed.

The water supply should be safe. If the water comes from a well or spring, this should be located where it cannot be polluted by drainage from barns, stables, cesspools, or privies.[1] It is a good plan to have the drinking water tested once a year. Write to your State department of health to have your water tested.

Cesspools, septic tanks, and privies should be so built that the health of the family is protected.[2]

Garbage, unless fed to livestock, must be burned or buried. If burned, it must be completely destroyed so that no moist parts remain to bring flies; if buried, it must be buried so deep that animals cannot dig it up.

Any stagnant water (water that is not flowing) can become a breeding place for mosquitoes, and every effort should be made to avoid having any such water near the house. One way to prevent mosquitoes from breeding in a rain barrel is to screen the top of it with a tightly fitting cover made of window screening.

Other Neighborhood Conditions

For the first year or two of a child's life he does not need to play with other children so much as he will later. As he gets a little older it will be valuable to him to be able to play with the neighborhood group of children. Parents selecting a home that they expect to be permanent will want to locate in a neighborhood where there are other families with children and where adequate and safe play space is available in the home yard or a nearby playground. They should consider, too, the nearness of good schools.

THE HOUSE ITSELF

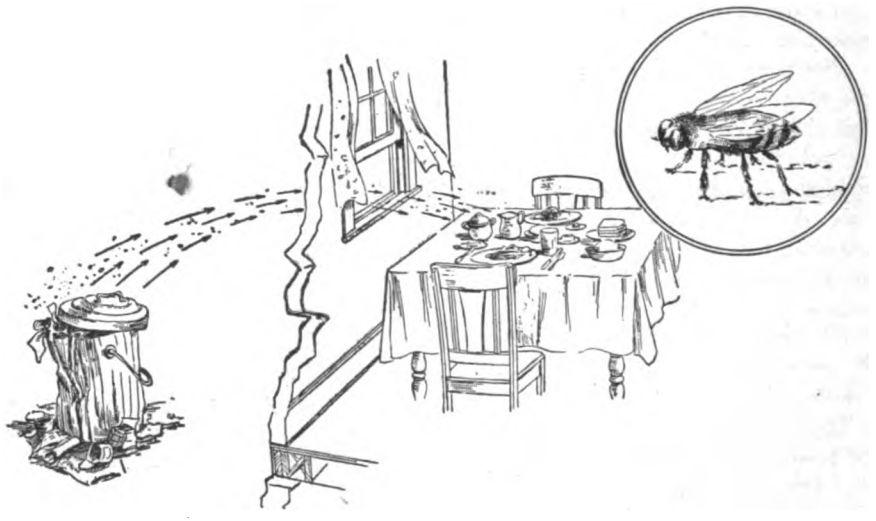
The house should have good drainage and good heating and lighting arrangements, and some of the rooms should have plenty of sunshine. The cellar should be dry. A sunny porch, where young children can play when the ground is damp, is a great advantage.

Every window and every outside door should be screened. It is a good idea to have porches screened too.

Flies carry disease germs, especially those of typhoid fever and dysentery. The flies get their feet covered with disease germs when walking over manure piles, unscreened privies, open garbage cans, or any other place where filth accumulates. Then, unless the house is well screened, the flies enter the house and walk over the family's food. To protect food, especially the baby's, from diseases carried by flies, not only

[1] See Farmstead Water Supply (Farmers' Bulletin No. 1448, U. S. Department of Agriculture, Washington, 1933, 38 pp.).

[2] See Farm Plumbing (Farmers' Bulletin No. 1426, U. S. Department of Agriculture, Washington, 1944, 22 pp.) and The Sanitary Privy (Supplement No. 108 to the Public Health Reports, U. S. Treasury Department, Public Health Service, Washington, 1933, 45 pp.).



the whole house but outdoor privies should be screened, and manure and other filth should be kept at a distance from the house.[3]

THE BABY'S ROOM

It is desirable that a baby have a room to himself. He needs quiet, which can seldom be obtained in a room used by other members of the family.

If this is not possible, it would be well at least to have him sleep at night in some place other than his parents' bedroom—a place that is near enough for them to get to him easily.

Cleanliness

The baby's room and everything in it should be kept clean. Walls that can be cleaned and window curtains that are thin and easily laundered are desirable. If a room is freshly papered and painted it is usually easier to keep clean. A bare floor or a floor covered with linoleum is easier to keep clean than a carpeted one. A washable rug may be used to add warmth and brightness to the room.

Decorations

A very young baby does not, of course, notice the things about him, but as he gets older and begins to notice them, he may enjoy a few decorations in bright clear colors.

Walls and floors in solid colors or with small patterns are better than those with elaborate nursery designs.

A few sharply outlined pictures of the things with which the baby soon becomes familiar—children, animals, characters in stories—can be cut out and put in places where he can see them easily. An attractive yellow chicken, for example, pasted on the front of the bottom drawer of the dresser will get many an affectionate pat and gurgle from the baby as he creeps about his room.

Ornaments that collect dust or are easily upset or broken do not belong in a baby's room.

[3] See Housefly Control (Leaflet No. 182, U. S. Department of Agriculture, Washington, 1939, 6 pp.) and Domestic Mosquitoes (Leaflet No. 186, U. S. Department of Agriculture, Washington, 1939, 8 pp.).

Heating and Ventilating

A very young baby needs a warmer room than an older baby or an adult. For the first weeks of a baby's life the temperature of his room should be kept between 70° and 75° F. night and day. For older babies the day temperature may be from 68° to 70° F. and the night temperature from 55° to 60° F.

In order to make sure that the baby's room is neither too warm nor too cold for him it is necessary to have a thermometer to measure the temperature. The thermometer should be hung on an inside wall at about the level of the crib, not near a heater nor where the sun can shine on it.

The baby's room needs fresh air. If there are windows on two sides of the room, and one is opened at the top and the other at the bottom, fresh air will circulate through the room. Fresh air is especially needed when a gas stove is burning in a room.

The baby must be protected from too much breeze. One way of doing this and still letting fresh air into the room is to use a window board. (See p. 12.) A screen may be used to keep drafts from the baby's head.

If the room is too cold, a small movable stove or heater may be used if it is placed and handled with great care. Any heater must be placed so that the baby will not be able to touch it and so that no one will be likely to stumble against it. An oil heater especially must be placed so that it will not be knocked over, for any oil spilled might cause a serious fire.

A gas heater must be inspected often to see that no gas leaks out. It should be connected to the gas inlet by metal pipes with solid connections, never by rubber tubing. A gas heater should have a pipe leading to a chimney or directly to outdoors.

Gas in the air will make a baby sick, and the least smell of gas means that there is some leak and that the heater should be repaired.

At least one window should be open when a gas heater is burning, and a screen should be used to keep wind from blowing out the flame.

An electric heater must be protected from getting wet, and it must never be touched with wet hands. People have been killed by turning off an electric switch with wet hands.

A fire screen is necessary for safety if an open fire is used.

In parts of the country where there is much hot weather the baby's room should be one in which he can be kept as cool as possible on hot days. Shades, shutters, or awnings that can be adjusted to keep out the hot sun help to keep the room comfortable. It is often a good plan to close the windows during the middle of the day to keep out the hot outdoor air.

The baby can be made more comfortable in hot weather if the air is kept in circulation with an electric fan. The fan should be tilted so that the current of air is directed toward the ceiling, not toward the baby.

FURNISHINGS

Bed

Bassinet.

The first bed for the baby may be a bassinet, a large flat clothes basket, or even a wooden box. Such a bed should not be left on the floor when the baby is in it, because the floor is apt to be drafty. It may be convenient to have legs on the bassinet or to have a large sturdy table on which to place it.

The bassinet will be outgrown in a few months, but during the early period of life, when the baby sleeps most of the time, it may be convenient to

be able to move him, bed and all, from place to place to give him sunshine and fresh air.

Crib.

A larger bed will be needed by the time the baby is 3 to 5 months old, and many mothers prefer to start with the crib. If a crib is bought it is wise to get one large enough to accommodate the child for the first 2 or even 3 years of life. It should be sturdy, with the bars close enough together to prevent the baby from getting his head caught between them and with no sharp posts on which he can hurt himself.

If the crib is painted, the paint should be of a kind that the manufacturer says is harmless to babies. Some babies develop a habit of biting the railing of the crib; if the paint contains lead, the baby may be poisoned.

Bedding.

For the bassinet several thicknesses of quilted cotton padding or a folded cotton blanket may be used as a mattress; it should be flat and smooth.

A soft pillow should not be used, whether as a mattress or as a pillow, for a baby might bury his face in it and be smothered. No pillow of any kind should be put under the baby's head. It is better for his back if his head is not propped up.

Bassinet sheets can usually be made by cutting up a partly worn-out sheet from the household supply. A pillowcase can be used as a bassinet sheet.

For the crib a firm mattress and a spring that does not sag are needed.

Unless the mattress has waterproof ticking it should have a rubber covering. The rubber sheet can be tied under the mattress with strong tapes sewed to each corner, or it can be made like a pillowcase to cover the whole mattress.

A pad between the waterproof material and the sheet will help to keep the baby from becoming too warm. This may be of quilted cotton or of more rapidly drying gauze.

Lightweight wool blankets will be needed except during very warm weather. Cotton blankets, which wash easily, are desirable for use in mild weather. It is better to have several light blankets than one or two heavy ones.

A clean cloth may be placed under the baby's head and tucked around the mattress. If the baby should spit up, the cloth can be changed easily; this, of course, is easier than changing the sheet.

A folded diaper or a square of quilted cotton under the buttocks, with a square of rubber sheeting under it, likewise will save frequent changing of the sheet.

Table for Dressing

A table of a convenient height on which to change the baby's diaper and to dress him is a great help. If the table is made with a heavy canvas top instead of a wooden or metal top, it will mold slightly to the baby's body, and this will help to keep him from rolling off. A table with a canvas top can be made readily at home if someone in the family has a little skill with hammer and saw.

If a table with a solid top is used it should be covered with a soft pad firmly fastened to the table.

Pail for Soiled Diapers

Any covered pail that will not rust is satisfactory for holding soiled diapers until they are washed.

Covered enamelware pails made especially for this purpose are on the market. These can be used for boiling

diapers as well as for holding soiled ones.

An ordinary galvanized-iron scrub pail or an earthenware crock may be used to hold diapers, and a heavy piece of planking may be used as a cover.

Chair for the Mother

The chair that the mother sits in when she feeds the baby should be low enough to permit her to have a good lap on which to hold him. Some mothers would rather sit in an ordinary chair and use a footstool than sit in a low chair.

An armchair may be convenient, for it is easier for the mother to hold the baby if her elbow rests on the arm of a chair. A rocking chair may be used.

Baby Carriage

If a baby carriage is used, it should be large enough to permit the baby, with whatever wraps are necessary, to lie full length or to sit up, and it should have a firm, full-length mattress that lies flat.

During the fly and mosquito season, a piece of mosquito netting should be at hand to cover the carriage when necessary.

When the baby is old enough to sit up he needs a small firm cushion at his back. He needs also to be fastened into the carriage by a strap. A strap that is attached to the carriage and that fastens about his waist is safer than one that is fastened to the carriage only.

Play Pen or Play Yard

A play pen or play yard can be bought ready-made or built at home.

A play pen that is kept always in the same place, such as a corner of the porch or a part of the yard, may easily be built at home, as it need consist only of a low fence to keep the baby in the enclosure.

A play pen to be used indoors is, as a rule, one that can be moved about and put away when the baby is not using it. Such a play pen is harder to make.

If a movable play pen is to be used in the house in cold weather, it should be raised from the floor in order to avoid floor drafts. Some pens are built with legs or casters that raise the pen some distance from the floor. One way of raising a pen is to nail two lengths of 2- by 4-inch board under the bottom, on opposite sides. The wood should be fastened firmly to prevent the pen from tipping.

If the pen is not raised above the floor a blanket fastened with tapes or safetypins to the side of the pen will help to keep a draft away from the baby.

When the baby is so young that he lies down a good deal of the time, the floor of the pen should be covered with a soft, washable pad tied to the corners by strong tapes. Later, when the baby sits or stands most of the time he is in the play pen, no covering on the floor of the pen is necessary unless the floor of the room is chilly.

Low Table and Chair

A low table for a child should be made in such a way that the child can get his knees under it. Legs and braces for the table should be at the center or the corners and not along the edges. A child gives his table hard wear, and it should be so sturdy that it will not become wobbly.

The chair to be used with the child's table should be low enough for him to put both feet on the floor when he sits in it.

See that the height of the table and that of the chair are suited to each other, so that when the child sits in the chair he is at the right height to use the table.

High Chair

If a high chair is used be sure to get one that has legs spread wide apart and weighted at the bottom, so that the chair will not tip over. It should have a footrest, and a safety strap to keep the baby from falling out of the chair. A high chair with a tray to hold the baby's dishes is more convenient than one without.

Bathtub

The family tub may be used for bathing the baby, but a small tub for this purpose is a great help to the mother as it saves her much stooping. Enamelware tubs and folding rubber ones are on the market.

Unless the tub has legs it should be placed on a sturdy table. The table should be of such a height that the mother can bathe the baby comfortably.

It may be convenient to put the table, with the baby's tub on it, near, or even in, the family tub, where it will be convenient to the hot- and cold-water faucets. The baby's tub can then be filled by means of a rubber hose, which saves the mother from carrying water. If rubber cups are placed on the feet of the table, it will stand more firmly and it will not scratch the surface of the large tub.

If an enamelware tub is selected, it is desirable to get one that is long enough (28 inches) to permit the baby to splash and play a little as he gets older.

Folding rubber tubs usually have legs and a canvas top on which to dress the baby, and with this kind of tub a table is not needed. These tubs can stand on the floor or inside the family tub. A rubber tub should not be used if it becomes rough on the inside, because it may scratch the baby.

Toilet Seat or Chair

By the time the baby is old enough to be trained in toilet habits he needs a small toilet; the family toilet is too large for him. The simplest thing to do is to fit onto the family toilet a thin board with a hole cut in it to fit the baby's buttocks. Such a board may be made at home or it may be bought. The commercially made ones usually have a clip for fastening the board securely onto the toilet. Toilet seats that fasten on the regular toilet may be bought. They are made with back and arm rests and have a safety strap. Some of them have also a footrest, which makes the baby more comfortable.

A low toilet chair, with a chamber under it, may be used instead of a toilet seat. Such a chair can be made at home.

If the family bathroom is upstairs or if the family has an outside toilet, it is sometimes convenient to have a nursery chair to use downstairs.

Window Board

A window board is a piece of glass or a board, as long as the width of the window and about 10 or 12 inches wide. It is held in place at the bottom of the window opening by a triangular support fastened to each end of the window frame. The bottom of the board rests on the window sill, slanting toward the inside of the room. When the window board is in place the window may be opened at the bottom about 8 inches, and the board will keep out direct drafts.

CHAPTER 4

Clothes

A BABY'S clothes are for the baby's comfort and should be planned with that in mind and not to satisfy the mother's longing for frills.

Clothing planned for a newborn baby will be suitable for only about half the first year. At the end of that time the baby will have outgrown many of the clothes he wore soon after birth. He will be much more active than he was when he was very young and will therefore need clothing of a somewhat different type. Besides, in most parts of the United States the temperature changes considerably in 6 months, and a baby by the time he is 6 months old usually needs clothes that are warmer or cooler than those he needed at birth. For these reasons the clothing bought for a newborn baby should consist of as few pieces as possible.

The average baby needs the following for about the first 6 months:

Diapers (dozen)	3–4
Shirts (long or short sleeves, or sleeveless, according to climate)	3–4
Abdominal bands	3
Nightgowns (or wrappers)	5–6
Sweaters	2
Flannel squares or baby blankets	2–3
Warm hood (if climate is cold)	1

Other garments, such as dresses, additional sweaters, and a bunting or other wrap for cold weather, may be good to have but are not essential. It is better to have plenty of diapers, shirts, and nightgowns so that the baby can always have plenty of clean ones.

SELECTING CLOTHES

Warmth and Coolness

To keep the baby comfortably warm, but not too warm, his clothing should be selected to suit the climate, the season, the temperature of the house, and the baby's age and condition.

In hot climates and those in which the range in temperature is nearly constant, night and day, for most of the year, it is easy to dress a baby so that he will not be too cold nor too warm. In parts of the country where seasonal and even daily variations in temperature are considerable and sudden—conditions found over the greater part of the United States—keeping a baby comfortably warm requires considerable thought and judgment.

In warm weather the baby needs to be dressed lightly; in the hottest weather only a sleeveless shirt and a diaper need be worn, or just a diaper. On hot days when a diaper is enough, care must be taken to see that the baby is not chilled by a breeze nor by the drop in temperature that often comes with a rainstorm or at nightfall

In moderate weather or in a changeable climate it is usually better to dress the baby lightly and to have an extra garment, such as a sweater or other light wrap, that can be slipped on easily when needed.

In cold weather warm clothes will be needed when the baby is outdoors,

and unless the house is well heated, even indoors. Warm clothes may include various garments, according to the need for them, such as a long-sleeved shirt, warm nightgown—or for the older baby, a warm sleeping suit and a sweater.

When the baby is outdoors in cold weather be sure that his clothing is warm enough and especially that his hands, feet, and ears are warmly covered. Care should be taken, however, that he is not dressed too warmly, whether he is indoors or outdoors. If he is dressed too warmly he will perspire, and his body will become damp. If this happens while he is wearing outdoor wraps the dampness may cause him to be chilled when he comes indoors and his outdoor wraps are removed.

Very young babies and feeble ones lie still most of the time, and they need warmer clothing than older and more robust babies, who are active.

Ease in Dressing and Undressing

The baby's clothes should be so designed that they can be put on and taken off with the least possible discomfort for him.

Of course, a young baby is unable to make any moves that help in dressing and undressing him, so that it is necessary actually to put his body into his clothes. So that this can be done with the least possible amount of pulling, pushing, and turning, garments that go on and off readily should be selected.

A sweater, for example, should either open down the front or have a neck that is stretchable enough to let the baby's head go through without discomfort. All garments should have large armholes so that the baby's arms can be put into the sleeves easily.

A garment should be just roomy enough for the baby's comfort, as such a garment is easy to put on and take off. Of course, when a garment is too small for the baby, either because it has shrunk or because the baby has outgrown it, the baby should not be forced into it.

It is easier to dress a baby if the buttons and buttonholes are large enough to manage easily and if they are in places that are easy to reach. Some parents find tapes easier to manage than buttons.

Garments that open all the way down are easier to manage than those that open part way or on the shoulders.

Ease in Laundering

All the baby's clothes should be washable. Materials that must be dry-cleaned have no place in the baby's wardrobe. Garments that do not need ironing, such as creepers made of crinkle crepe, will save work.

It should be remembered that sweaters and blankets must be washed with some skill to avoid shrinkage and to keep the wool soft.[1]

Safety

A drawstring should not be used in the neck of a baby's garment. Such a string is dangerous, for it may get pulled too tight about the baby's neck and strangle him. Long ribbons, sometimes used as trimming on babies' clothing, are undesirable for the same reason.

DIAPERS

Diapers should be soft, absorbent, light in weight, and not bulky. (Bulky

[1] See Methods and Equipment for Home Laundering (Farmers' Bulletin No. 1497, U. S. Department of Agriculture, Washington, 1940, 39 pp.).

diapers may interfere with good posture when the baby begins to stand or walk.) They should be made of material that absorbs moisture quickly, is easy to wash, and dries quickly. Diapers of cotton bird's-eye cloth may be pinked instead of hemmed, the diaper is less bulky and also is easier to wash.

Several types of satisfactory diapers are on the market, such as a diaper made of two layers of soft, fine-meshed, gauze-like cotton material, finished without hems and woven together at all the edges.

Many mothers put pieces of old cotton goods or absorbent paper tissue inside the diaper to catch the stool. Disposable diapers and also disposable diaper linings are on the market and may be used if the mother wishes.

The shape of the diaper depends largely upon the mother's preference. Some choose square diapers, some oblong. The size depends partly upon the size of the baby; a diaper that is too large for the baby is bunchy and uncomfortable. Many square diapers are 27 inches each way (after shrinking); others are smaller. Oblong diapers are usually 20 by 40 inches.

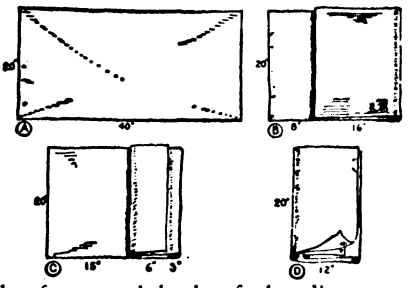
Putting on the Diaper

If the diaper is square, fold it triple thickness.

Then fold one end back about one-third, so as to make a pad of six layers of cloth. For a girl baby this six-layer pad is to go behind the baby; for a boy baby, in front. The part that is to pass between the legs is only three layers thick.

Lay the baby on the folded diaper (the turned-back flap may be either on the inside or on the outside).

Draw the other end up between the baby's legs, over the abdomen, and pin



the front and back of the diaper together at each side at the waistline with safetypins, keeping your hand between the baby's body and the point of the pin.

The pins should be placed crosswise and should pass through both shirt and diaper. The back fold of the diaper should overlap the front.

Pin the front and back of the diaper together at each knee.

If the diaper is oblong, it may be folded to form a center panel of extra thickness. (See illustrations A, B, C, D.)

To form this panel, using a 20- by 40-inch diaper (A), fold the diaper crosswise, bringing one end to about 8 inches from the other (B). The folded diaper will then be 20 by 24 inches.

Turn back the short end to about 3 inches from the fold (C).

Bring the other end of the diaper over to the first fold. The diaper will then be 12 by 20 inches, with a panel about 6 inches wide in the center (D).

It may then be pinned on like a square diaper, except that there is no flap.

Care should be taken not to hamper the free movements of the baby's body or legs by pinning the diaper too tight.

Care of Diapers

The diaper should be changed as often as it is wet or soiled. At night it should be changed when the baby is

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taken up to be fed. (See Toilet Habits, p. 53.) No diaper should be used a second time before being washed. Used diapers should never be left lying about the room nor dried on radiators.

Wet diapers should be placed at once in a covered pail and left until they can be washed.

Diapers soiled with stool should be held over the toilet and shaken, brushed, or scraped so that as much stool as possible may be removed. If the family has a flush toilet the diaper may be held by one end inside the toilet and the toilet flushed so that the water flows over the diaper. When only a stain is left, the diaper may be put into the covered pail with the other soiled diapers.

All the diapers should be washed in very hot water with plenty of mild, unmedicated soap, with no washing powder or strong soap. They should be rinsed through four waters so that all the soap is rinsed out. Diapers should be dried in sunshine and open air whenever possible. It is not necessary to iron diapers, though they may be ironed if the mother wishes.

Sometimes the skin of the baby's buttocks and thighs becomes chafed. This chafing is often due to soap left in the diaper and means that greater care in rinsing the diapers must be used. Boiling diapers helps to remove soap.

Occasionally, with some babies, there is an odor of ammonia when the diaper is changed. In some cases the odor is noticed only after a night's sleep. Not only is the odor unpleasant, but the ammonia in such diapers frequently causes an irritation of the baby's buttocks and sometimes, in boys, of the end of the penis.

When ammonia diaper occurs it can be remedied by caring for the diapers as follows:

After washing and rinsing the diapers, wring them as dry as possible and place them in a solution made by dissolving 4 level tablespoonfuls of boric acid (see p. 99) to 1 quart of warm water. Wet the diapers thoroughly with the solution. Then wring them lightly and dry them, preferably in the open air.

If the baby has diarrhea the diapers should be boiled after they are washed and rinsed. The boiling should be done every day until the diarrhea is gone.

It is unwise to put an unboiled diaper under a baby's head, or to use it near any part of the body other than the genital region.

BABY PANTS

Pants over the baby's diaper to protect his clothes or bedding should be used only on special occasions when such protection is particularly important. Ordinarily it is better to provide extra protection by placing a rubber square and a folded diaper or a square of quilted cotton on the bed under his buttocks.

Occasionally, when it seems especially important to protect the baby's clothes or surroundings, as during a journey, pants over the diaper are very helpful.

Knit wool pants for this purpose are better than waterproof ones, as they permit more evaporation. If waterproof pants are worn they should not be so tight at the waist or knee as to leave marks on the baby's skin, and they should be made with air holes to allow for evaporation. Pants that are cut to fit the waist and thigh permit better ventilation and are therefore less heating than those in which elastic is used at these places.

When a baby wears waterproof or absorbent pants over the diaper the

mother should be especially careful to change the diaper as soon as it is wet or soiled.

ABDOMINAL BANDS

A baby's first band is usually a strip of gauze or soft flannel 4 to 5 inches wide and 18 to 20 inches long, which holds the navel dressing in place. It should never be tight enough to bind. As soon as the navel has healed the baby no longer needs an abdominal band.

SHIRTS

Under most circumstances cotton is the best material for the baby's shirts. In cold climates, if it is hard to keep the room warm, it is usually better to keep the baby warm with sweaters or other garments rather than with a wool shirt. Wool may irritate the baby's skin, and all-wool shirts shrink considerably.

Before buying a shirt that goes on over the head, see whether the neck will stretch enough to go over the baby's head easily and yet be firm enough to stay in place on the shoulders. Shirts should have large armholes so that the baby's arms can be put into the sleeves easily.

A hem or a facing at the bottom of the shirt to which the diaper can be pinned will make a shirt last longer.

STOCKINGS AND SOCKS

In warm weather or in a well-heated house a baby who has not yet begun to creep will be most comfortable barelegged and barefooted; he will not need any kind of stockings nor shoes—not even bootees. In cold weather outdoors or in a house that is not well heated, his legs and feet will need to be covered. If long stockings are worn they should be fastened to the diaper in such a way that they will not bind the baby and restrict his activity. Short socks or bootees are not very satisfactory as they can be kicked off easily. One way to keep the baby's legs warm is to put a pair of long pants on him, like overalls, pajama pants, or the pants of "sleepers." These may be made with feet.

Later, when the baby needs some kind of stockings to wear with his shoes, short socks are better than long stockings since they do not need to be fastened up and so cannot pull on the other clothing. Overalls will keep his legs warm.

Socks and stockings, after washing, should be at least half an inch longer than the baby's foot. A baby's feet grow quickly, and the mother needs to watch the size of the stockings she puts on the baby to see that they are not cramping his feet.

SHOES

Shoes for the baby before he walks are for protection only, not for support. When he is creeping, especially if the floors are rough, shoes will protect his feet from being scratched. At this time soft-soled shoes such as moccasins, which permit free movement of the feet, are satisfactory.

When the baby begins to stand he needs shoes with firmer soles, because then he puts his weight on his feet.

The sole of a baby's shoe should be shaped like the natural outline of his foot, straight along the inner line. It should be made of rough leather so as not to be slippery. It should be firm, but should not have a stiff metal shank. Heels are not advisable, as they limit the range of motion of the ankle joint.

The uppers should be made of soft, pliable material, such as kid. They should not be made of patent leather,

as such leather is finished with a varnish that keeps perspiration from evaporating.

The shoe should fit snugly at the heel, and it is best if it is made with a stiff counter around the heel to keep the foot firmly in place.

Shoes should always be long enough, wide enough, and deep enough (at the toe) not to crowd the baby's toes. Shoes when bought should be about a half inch longer than the baby's foot and at least one-fourth inch wider at the toes. Notice the thickness of the baby's toes and see that the shoes provide ample space for them up and down. This is very important; sometimes shoes are correct in the shape of the sole and in length and width, but are not high enough at the toe. Check the fit of the shoe carefully and often to see that the toes are not crowded as the feet grow. As soon as the baby's toes come within one-fourth inch of the end of the shoe, longer shoes should be bought.

A baby will outgrow his shoes very rapidly in the first year of life. If he wears shoes by the time he is 8 months old, he may need a new pair almost every month; from 15 months to 2 years he will need a new pair every 2 or 3 months. Most mothers dislike to discard a pair of shoes when "there is still a lot of wear in them," but if they realized the permanent harm that outgrown shoes can do, they would make a great effort to keep the baby supplied with shoes that fit.

Parents should examine a baby's feet often to see whether there is any thickening of the skin or any pink or red place on the foot, as these may be due to pressure from shoes.

Low shoes are better for the baby's feet than high shoes because low shoes give the ankles greater freedom. If a baby gets the habit of taking off low shoes, high shoes will be necessary.

When the doctor gives the baby a health examination (see p. 4) ask him whether the baby's shoes are the right style and size.

NIGHTGOWNS

During the first few months of life, when a baby sleeps almost all the time, he may wear nightgowns both day and night. A nightgown may be embroidered or otherwise made dainty and pretty, but it should wash easily. It should be easy to put on and take off, and be the right weight for the time of year.

Any soft material may be used for nightgowns, such as cotton or part-wool flannel, or, in warm weather, thin white-cotton goods such as batiste.

Winter nightgowns for a very young baby may be made with a drawstring through the hem at the bottom. Such a nightgown must be long enough to come well below the baby's feet so as to permit him to kick.

In hot weather a nightgown is unnecessary.

Many mothers like to use wrappers for the baby. A wrapper is easy to put on the baby when the mother wants to remove a dress or nightgown that is wet or soiled but when she is not ready to dress the baby again; or it may be used instead of a dress or nightgown. Wrappers are usually made of knitted material or outing flannel.

SUITS AND DRESSES

When the baby is at the creeping age he needs the greatest possible freedom for reaching, trying first steps, and getting around on hands and knees. If he is to have this freedom his garments should be designed, cut, and fitted so that there is extra room exactly where it is needed.

Creepers, overalls, or sun suits are less apt to get in the baby's way than dresses. Such garments should be made so that they are easy to put on and take off and so that the diaper can be changed easily. They should be made of fabrics that will stand hard wear, such as cotton broadcloth, cotton poplin, and gingham. The colors should stand much washing.

Overalls or long pants like sleeper pants will protect the baby's legs when he is creeping over rough surfaces.

Many mothers like to have a few dresses in the baby's wardrobe for dress-up occasions. Dresses should allow as much freedom for activity as possible, should be easy to put on and take off, and should wash easily.

No trimming should be used that can scratch or irritate the baby's tender skin.

The baby's dress can be worn without a slip, though mothers sometimes prefer to put a slip under thin, transparent dresses.

OUTER GARMENTS

In parts of the country where the weather may be cold one day and mild the next, the baby's outer clothes should be changed accordingly. It is wise to have a sweater for a light extra wrap to be worn indoors or outdoors, as it can be taken off and put on easily.

For a very young baby a square of blanketing may be used as an outdoor wrap.

An older baby may wear a woolen play suit in cold weather. A knitted suit gives more freedom for activity than a suit made of woven material; but it is not very warm, and there may be times when an extra sweater and pants are needed.

The baby may need a winter wrap, such as a bunting, of warm woolen material, with or without a thick interlining of wool.

A warm woolen cap or hood will be needed in cold weather. In mild weather no head covering is needed for warmth, but a soft muslin or silk cap may be worn if the mother wishes. On hot days the baby's head should be protected from the sun by a sunbonnet or cap.

BIBS

Toward the end of the first year, when the baby begins to help feed himself, a bib will be needed to protect his clothes. A bib should be large, for a baby just learning to eat spills food all over himself.

The baby's bib may be merely an oblong piece of cloth, fastening around his neck by means of short tapes; or it may be made something like a pinafore, tying around the waist as well as the neck.

Bibs can be made of any absorbent goods—old turkish towels, flannel, or several layers of cheesecloth. Absorbent-gauze bibs may be purchased. Bibs made of oilcloth are sometimes used.

CHAPTER 5

The Baby's Development

DURING THE FIRST YEAR of a baby's life he grows faster than at any later time. He also develops so rapidly that it is hard to believe the brief span of one year sufficient to change a newborn baby into a sturdy little fellow who can pull himself around, explore everything within his reach, express his likes and dislikes, and take a real place as a personality in the family group.

From conception to the end of life human beings, like all other living things, have within them a drive to push onward in a definite way. This drive is so deep within each individual, so much a part of him, that nothing from the outside can do more than influence it superficially.

BEFORE BIRTH

The baby at birth seems helpless in comparison with an adult, but in comparison with what he was a few months before he is far from helpless.

During the time the baby is in his mother's uterus he grows and develops rapidly, and at the end of this part of his life he has developed so far that his own organs can carry on his life without the aid and protection of his mother's body.

Some parts of the baby's body mature early and get practice in carrying on their functions before he is born. His heart, for example, begins to beat at about the fourth month of life in the uterus, and every mother is aware of the first fluttering movements of her baby as his arms and legs develop.

Some parts, although they have developed completely by the time the baby is born, have no opportunity to carry on their functions until afterward. The lungs, for example, do not become inflated until the first breath is drawn, and the organs of digestion do not begin their work until the first food is taken.

Still other parts of the baby's body, such as some of the teeth, do not develop until some time after birth.

At the time of a baby's birth, if he has spent the full 9 months in his mother's uterus, he has reached a point in his development where he is prepared to do such things as suck and swallow and cry.

AFTER BIRTH

After birth, as before, all babies follow the same general path of development, although they may differ considerably in the age at which they reach certain places in the path. As a baby's body grows in size he learns not only how to do certain things but also to understand what goes on around him.

The baby has great curiosity about what goes on about him, and he tries to satisfy it by looking, listening, smelling, tasting, handling. Watch a 6-month-old baby with a new toy. He feels it, he tastes it, he looks at it, and he may even put it to his ear.

Another thing that happens as the baby develops is that, of his own accord, he moves different parts of his body and gains more and more control of it. At an early age he finds he can raise his head; later he learns to sit up, to stand, and to walk. He also finds out how to use his hands. At first he moves his whole arm; later he learns to take hold of objects with his hands.

He also finds he can make sounds. At first he makes them by accident, but slowly he gains control over his voice and makes sounds at will. Much later he combines the knowledge he has gained by listening to the people and things about him with his own power to use his voice, and he begins to imitate what he hears. That is how he learns to talk.

Some force within the baby makes him develop in these ways. But his full development depends not only upon this inner drive to learn and to act, but upon influences outside himself. No person can act entirely according to his own needs or desires. Behavior is influenced by circumstances and by the actions of other persons. This is true even in earliest babyhood; the baby soon learns to adapt his behavior to the conditions and people in his home.

Physical Growth

Shape and Proportion.

There are many differences in shape and proportion between a baby and an adult. The baby's head is much larger in proportion to his whole body than is the adult's head. The baby's jaw is not fully developed at birth, and its appearance sometimes causes parents concern. They need not be alarmed, however. During the first year of life the lower jaw grows more rapidly than the rest of the face, and by the first birthday most babies have a well-developed chin.

Weight.

The baby changes in weight rapidly during his first year—more rapidly than at any later time in his life.

In the first few days after birth all babies lose some weight. It takes a few days for the baby to become accustomed to life outside his mother's body; during these days he does not take much food, and consequently he loses some weight.

After the first loss in weight the normal baby begins to gain and gains rapidly throughout infancy.

Babies vary a great deal in the number of ounces they gain from month to month and also in the amount they weigh at any given age.

The younger the baby, the more rapid is his gain in weight; that is, a baby can be expected to gain more between the first and second months of life than between the third and fourth months.

How much any baby should weigh at a given age depends upon such things as—

The size of his parents.—If both parents are large, it is to be expected that their baby, too, will be large and will therefore weigh more at each age than will the baby whose parents are small.

The type of body of the child.—The long, slender baby will not weigh so much in proportion to his length as the short, chubby one, even if both are healthy.

The sex of the child.—Boys are a little heavier than girls.

It must not be thought that because a baby does not weigh as much as some other baby of the same age he is sick or undernourished. He may be light because he is naturally a small person

Babies should gain weight, and they should gain weight steadily. If a baby does not gain weight, or loses, or suddenly begins to gain very rapidly, the doctor's attention should be called to it. Keep a record of your baby's weight; it is only by comparing his present weight with his previous weight that the doctor can tell whether or not he is gaining as he should, considering his age and sex, his body type, and his race and family.

It is a great mistake to compare your baby's weight with the weight of a friend's baby. Your baby and her baby are different. You can expect at least as much difference between the babies as exists between you and her, or between your husband and hers.

Teeth.

The baby's teeth begin to develop while he is in his mother's uterus, and by the time he is ready to be born all the teeth of the first set and many of those of the second set are already formed in his jaw.

Some of the first set begin to come through the gums when the baby is 6 to 8 months of age, and from then on until he is about 2½ years old groups of new teeth come through at intervals. (See p. 97.)

During the last months before birth and throughout the first year of life the permanent teeth are developing in the baby's jaw. They do not come through the gums, of course, until much later in childhood.

You can measure the baby's length and weigh him, and you can count his teeth, but the baby develops at the same time in other ways that are not so easily measured. The development of the nervous system, the increase in strength of the muscles, the perfection of his eyes to the point where he can see objects accurately cannot be measured, but they can be followed by noticing the baby's increasing ability to understand the world about him and to do things for himself.

Becoming Aware of His World

One way in which a baby develops is in his ability to understand the world about him. He learns by seeing, hearing, tasting, smelling, feeling. Some of these things he can do well at birth, others not until later. As these powers develop they give the baby increasing ability to learn about his world.

Seeing.

Babies do not see very much soon after birth. Some of the special kind of cells that are used for seeing are not fully developed in the baby's eyes at birth. Gradually, during the early weeks of life, these special cells develop; and by the time the baby is 3 or 4 months of age his eyes are more or less complete, and he is able to see shapes and colors fairly well.

Bright colors and sharp outlines probably are seen and appreciated by a baby before he can see soft colors and indistinct or confused shapes.

Even before complete vision has developed the baby shows that his ability to see is increasing. He fixes his eyes on his mother's face and follows a moving light with his eyes by the first or second month. Soon after this he shows that he recognizes familiar objects—he opens his mouth when a feeding is offered, and he stops crying when his mother leans over him, before she picks him up.

Hearing.

Unlike seeing, hearing is well developed at birth. A very young baby is

easily startled by noise and will show fright at a loud sound. Babies learn to distinguish between sounds at an early age, and they respond to sounds long before they are able to understand speech. A baby learns that the soft voice of his mother is associated with being made comfortable. Often when a baby hears his mother's voice he will stop crying in anticipation of the comfort to come. Most babies enjoy being sung to, and they seem to respond to singing when only a few weeks old.

As the baby gets older his hearing enables him to imitate the sounds he hears about him and thus to learn to talk.

Tasting and Smelling.

It is probable that babies at birth are able to taste their food. Most babies seem to prefer sweet-tasting substances, but sometimes a baby is found who seems to prefer sour milk.

Smelling probably is well developed at birth. Young babies seem to notice the odor of milk and will root about with their mouths to find where it comes from.

Feeling.

Babies, like grown-ups, get sensations other than those gained through their eyes, ears, nose, and mouth. They feel pressure and pain, they feel heat and cold, they are uncomfortable when their stomachs are empty. Even a very young baby is aware of various sensations and will cry if he has disagreeable ones, but it is not until he grows older and his brain and nervous system develop that he is able to tell, for example, the difference between discomfort due to hunger and discomfort due to a pain in his ear.

Doing Things

As the baby is becoming aware of his world he is also learning to do things. He develops the ability to move his arms and legs at will, to change his posture, to stand, and finally to walk. He develops also the ability to make sounds and later to control these sounds so as to make words. These things and many others are not taught to the baby; he develops to the point where he can do them.

A new ability appears as soon as the nerves and muscles concerned are developed enough to permit them to work together. Just as before birth, in the mother's uterus, the baby begins to kick as soon as he has developed sufficiently, so with advancing development after birth he begins to creep, stand, and toddle.

The ability of babies to learn to do things depends partly upon their ability to take in what goes on around them. The baby who is born deaf and never hears anything does not develop the power of making sounds that mean anything.

The normal baby, however, develops more and more skill as his growing body responds to the drive from within and the stimulation from without.

Posture.

The way a baby holds his body (posture) depends first upon the strength of his muscles and secondly upon the development of his nervous system.

At birth the baby's muscles are not very strong. The muscles of his neck and back are not strong enough to support the weight of his head, and the mother must support his head and his back whenever she moves him. The young baby is not able to sit up nor to stand, partly because his nervous system has not developed enough to let him control the muscles in his legs, back, and abdomen.

The first muscles to come under the baby's control are those of the head

This is how your baby's posture changes.

and neck; next come the muscles of the arms and chest. The muscles of the feet and legs are the last to be brought under control.

Holding the head up.—When a newborn baby is lying on his abdomen he can usually raise his head from the bed, but he cannot keep it up; his head bobs up and down and finally rests again on the bed. When lying on his back a newborn baby is not able to raise his head at all because the muscles in the front of the neck are not so strong as those in the back.

At about 1 month of age the baby, when lying on his abdomen, can, as a rule, hold up his chin, and a little later he can lift his head by raising his chest. Soon after this he can lift his head and chest from the bed by putting his weight on his hands. During the third or fourth month most babies learn to lift the head when they are lying on their backs. At this age a baby is usually able to hold his head up without support for 4 or 5 minutes if he is in a sitting position with support at his back, but he soon gets tired.

Sitting up.—By the time a baby is 4 or 5 months old he usually begins to show some interest in sitting up, although at this age the large muscles of his back are not strong enough to support his weight and he is apt to slump over to one side when he is in a sitting position. If given proper support so that his back is erect, a baby of this age can sit up for 15 or 20 minutes. Many babies enjoy this change in position. Considerable care must be taken, however, to see that the baby does not become tired and that he does not slump over. When sitting up he needs not only support at his back but also a firm surface under him—a firm mattress, the floor, or the floor of a play pen—not a soft cushion.

At about 7 or 8 months a baby can usually sit alone without support for a short time. At this age he is beginning to be able to pull himself back into a sitting position whenever he topples over.

Rolling and Creeping.

At about 5 months of age most babies learn to turn over, first from the stomach to the back and later from the back to the stomach. Some babies roll over and over and manage to move a considerable distance in this way.

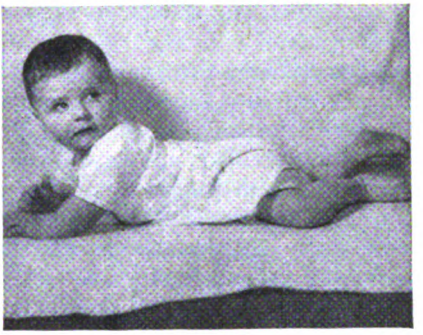
When the baby is placed on his stomach he kicks and squirms and sometimes discovers that he can push his body forward by movements of his arms and legs. Sometimes the movements of the arms may actually move him backward with a sort of swimming movement. He does not move rapidly in either direction by this method. Gradually, as the baby gets older and his muscles become stronger he learns to move about by raising himself from the floor—first on his hands, later on his hands and knees, and still later on his hands and feet. Movement about then becomes much easier as he learns to use his hands and feet alternately. This going on all fours is similar to the walking of animals.

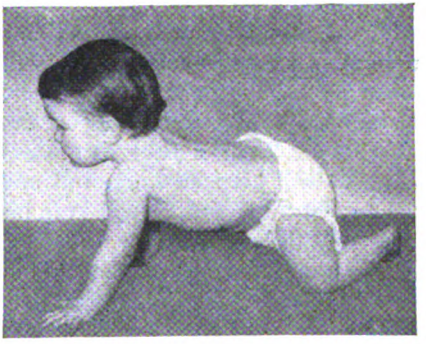
Some babies never creep but move themselves about by other methods before they learn to walk.

Standing and Walking.

As the baby gets a little older he will try to put all his weight on his feet and to stand up.

Children vary a good deal in the age at which they begin to stand. Some will try to stand as early as 7 months. Some may not attempt it until as late as 10 or 11 months. Never urge a baby to stand; he will do it himself as soon as his





Let him take his time to learn to creep and stand.

muscles are strong enough to support his weight.

When the baby first begins to stand alone he will keep his feet far apart to give himself balance, he will try to dig his feet into the floor, and he will hold his arms out to balance himself. At first he will fall many times because he is top-heavy and has not learned to balance his body.

Soon after a baby has learned to stand he will try to walk. At first he will hold to some firm support with both hands. Later he will need support with but one hand. It is often a long time after a baby is able to walk well when holding on to something before he will finally give up the support and walk alone. When a baby first walks alone he will keep his knees stiff and his feet far apart and he will keep his arms stiff and use them for balancing, but in spite of these precautions he will fall frequently. Slowly he learns to control his muscles. This gives him confidence, and before long he is able to walk with ease and grace.

A baby should never be urged to walk. He will walk of his own accord just as soon as he is ready.

A "baby walker" is not recommended; if it is used at all it should be used for only short periods of time. Many such "walkers" force the baby to walk with the legs spread farther apart than is natural; a child becomes overtired quickly when he is held in a confined space in a more or less rigid position.

When a baby is beginning to walk be careful that a large, bulky diaper is not making it more difficult.

Grasping.

A newborn baby will grasp a finger or a rod if it is placed across his palm and will hang on to it with enough strength to support his weight. This act in the newborn is automatic, and the ability to perform it is lost after about 2 months. Toward the end of the first year he will again be able to grasp objects with similar strength, and then the act is under control of his will.

Babies first take hold of objects with the whole hand, all the fingers moving together. Later they discover that the thumb and the fingers can be used opposite each other. After this, more delicate movements become possible.

Talking.

For the first few weeks after birth a baby uses his voice only in crying. But by about the sixth week of life or a little later the vocal cords come sufficiently under the control of the brain to enable the baby to make cooing sounds. At first the baby makes these sounds at random, but soon he is able to make them at will. When babies discover that they can do this they usually spend much time practicing their newly acquired skill, and they then find that a variety of sounds is possible. These cooing and "ah-ing" sounds are like the movements of the arms and legs in that the baby discovers by himself that he is able to make them. He is not taught to do it; he develops to the point where he can do it. At a somewhat later part of the first year or during the second year a baby begins to imitate the sounds he hears, and a few real words are added to his already large vocabulary of sounds. The first real words are almost always two syllables repeated, such as ma-ma, da-da. The baby finds it easier to repeat the same syllables than to make different sounds.

Adapting to His World

In the first few weeks after birth what the baby does depends almost

entirely upon his physical needs, but before long he begins to notice and respond to his environment, which includes the people around him. He learns to adapt his behavior to that of the family. It is with respect to this type of development that parents have their greatest role in helping their children.

Early Experience Important.

A baby begins to learn during his early months of life ways of acting and feeling. These ways may enable him to fit happily and cheerfully into the life of his family, or they may not.

For example, suppose a very young baby becomes hungry. He becomes vaguely conscious of discomfort, begins to wiggle and twist, and finally to cry. Soon after he is thoroughly aware of his discomfort his mother appears, with a cheerful, quiet voice, a warm bosom, and firm arms. The baby responds by nuzzling about until he finds the nipple and sucks it, and then warm milk flows into his stomach. Not only the milk, but also the warmth, the sense of being held firmly, and probably even the sound of his mother's voice all help to give that baby a sense of comfort. Through many repetitions of this experience the baby responds with pleasure, not only to food but to friendly human contact. Such experiences help him become a likable, friendly person.

On the other hand, to take an extreme example, suppose another baby becomes hungry, and he wiggles, twists, and finally cries as did the first baby described. Instead of having his needs for food and affection satisfied soon, this baby is allowed to cry on and on, and finally a bottle is put into his mouth as he lies in his crib. He may have so exhausted himself that he is too tired to obtain much pleasure from the food. He gets his food and goes to sleep, but the next time he is hungry his need for comfort is increased, perhaps by a vague feeling that it was never entirely satisfied. Eventually, through many repetitions of this unsatisfactory experience, the baby may develop an attitude of dislike toward the world and instead of responding in a friendly way he remains withdrawn, fearful, and a little suspicious—an attitude that will make his ultimate adjustment to life difficult.

Adaptation Made Easy.

From the time of the baby's birth some of his desires are met with resistance; for example, his desire to satisfy his hunger. When he becomes hungry and begins to root around for something to suck, and then begins to cry, his mother cannot always be prepared to feed him immediately. The baby must get used to waiting for his food. He will suck his fingers, he will cry, but he will wait. Each conflict between his desire and his environment means that some adaptation must take place.

If the baby does not have to wait too long for his feedings when he is hungry, or for a change of his diaper when he is wet and uncomfortable, he will probably adapt himself easily to the idea that there cannot be someone dancing attendance upon him at every moment. But if, time after time, he has to endure discomfort for a long while without relief, though he may finally become accustomed to this state of affairs, the adaptation may be slow and difficult.

Easy adaptation helps the baby to grow into a happy, likable member of his family; difficult adaptation is apt to result in habits of resistance toward everything and everyone around him. Parents can help the baby to develop a happy, pleasant personality by fitting

his daily schedule and other things about him as nearly as possible to his needs, so that he will not be called upon to make adaptations that are too difficult for him.

A newborn baby has emotional needs; and if these needs are met his adaptation to the world is easier than if they are not. He needs, for example, to be made to feel safe and secure. He has spent the first months of his existence safe and warm inside his mother's body, and then suddenly he finds himself in a new and strange place where many unexpected sensations come to him. It is not strange that he needs to be given a sense of being safe. If a baby does not feel safe and secure he is apt to develop ways of behaving which are really an effort to get the sense of security he needs. A child who is "spoiled," who is constantly demanding attention, may be the child who is afraid because he does not feel safe and secure.

A baby needs to be loved; he needs to be picked up and cuddled occasionally; he needs to snuggle down in the warmth and comfort of his mother's arms. At feeding time, especially during the early months of her baby's life, the mother has a good opportunity to hold and fondle him, and it is at these times that the baby feels the love and comfort he needs. This is why it is a good plan for the mother to hold the baby in her arms while feeding him whether from her breast or from a bottle. (See Habits, p. 41.)

Learning To Be Friendly.

The baby's first social accomplishment is smiling. Usually the smile begins to appear at about the end of the first month of life, and in the course of a few days after the first few mouthings it becomes the full-fledged toothless grin of babyhood. Through his smile, especially when it is combined with the gurgling and cooing noises of developing speech, the baby makes friendly human contact with the people about him. The baby learns that he is able to please his mother with his smile and his gurgles, and he soon learns that this kind of behavior brings him pleasure, too. This is the beginning of the baby's adaptation to people.

Later the baby learns that other behavior of his produces the same kind of pleasant response not only in his mother, but in others too, and so he repeats that behavior consciously in order to get the response he likes. He learns to imitate people, and he finds that it pleases them if he tries to play pat-a-cake or peek-a-boo in imitation of their motions. As the baby learns new accomplishments, he will persist with those that give him most satisfaction, and his satisfaction comes partly from the accomplishment itself and partly from the interest and approval of those about him.

CHAPTER 6

Baths

BATH TIME, next to feeding time, is the time many mothers and babies enjoy most—and fathers, too, on Sunday mornings. When the baby has his clothes off he is freer to stretch, to kick, and to twist, and he sometimes delights his parents with a new trick.

But although bathing is usually fun for both mother and baby, nevertheless it needs to be done skillfully and carefully.

During the first few days of life, before the cord is off and the navel healed, the baby is given sponge baths. After a dressing is no longer needed over the navel a tub bath may be given. Some mothers, however, prefer to keep on giving sponge baths for some months.

Plain mineral oil may be used for an oil bath. Mineral oil does not get rancid, even without special care. Vegetable oils, such as olive oil and cottonseed oil, become rancid easily, especially when the bottle of oil is warmed again and again, as it is for a baby's bath; and rancid oil is irritating to a baby's skin. Commercial "baby oils" are usually mixtures of mineral oil and a vegetable oil such as cottonseed oil. They are usually perfumed, and many contain a chemical that prevents rancidity but may irritate a baby's skin. They are more expensive than plain oils.

Any mild toilet soap may be used for a baby's bath. Soaps that float are likely to be convenient.

Bathe the baby every day unless your doctor gives other directions. Do it about the same time every day. It is best to do it before a feeding, and the 10 a. m. feeding is the one most mothers find convenient, although bathing may be done before any feeding. Do not bathe the baby within an hour after feeding him. In very hot weather it may make the baby more comfortable to bathe him twice during the day.

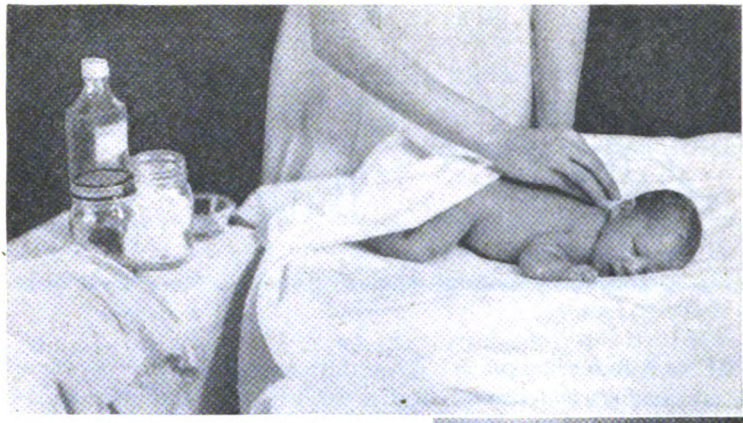
The room in which the baby is bathed should be comfortably warm—75° to 80° F.—and not drafty. If it is drafty a screen may be used to protect the baby. It is not wise to have the room so warm that the baby perspires.

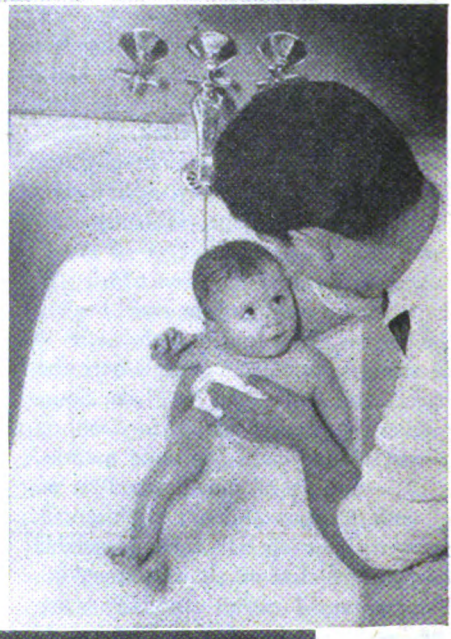
When bathing a young baby, the mother should make sure that her hand supports both his neck and his back. A young baby is unable to hold up his head and his back, and he needs this support for his safety.

PREPARING FOR BATH

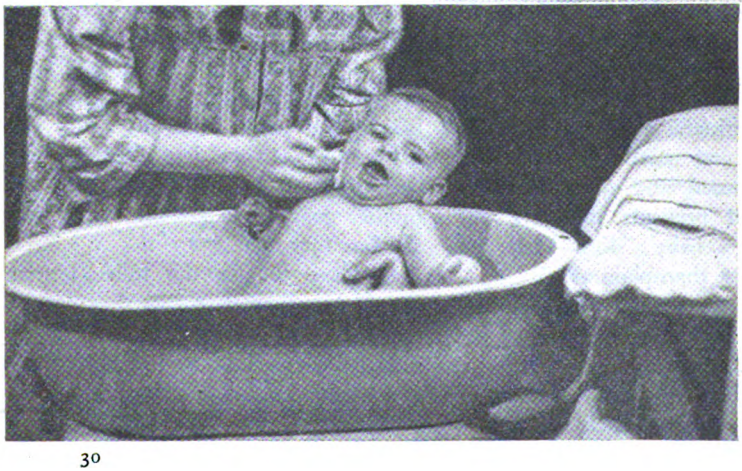
The mother should wash her hands with soap and water before picking up the baby to bathe him. She should have everything ready for the bath before taking the baby from his crib. The baby must not be left alone on the dressing table or in the tub while the mother goes off to get something that she has forgotten.

A place to put the toilet articles should be planned so that they can be reached easily. A shelf over the table may be convenient, or the top of the dresser, or a window ledge, or a separate table.





You can bathe a baby in various ways — by giving him an oil bath or by bathing him in water in the family tub or in his own tub.



The things that will be used when the baby is bathed and dressed are:

For an oil bath:

Table with bath towel laid over it. The table should be against the wall, for the baby's safety.
Bath blanket.
Pieces of absorbent cotton in a covered jar.
Small, flat dish of warmed oil.
Extra safetypins, kept closed and in a covered jar where the baby cannot reach them.
Paper bag for waste cotton (this may be pinned to the side of the dressing table).
Covered pail for soiled diapers.
Hamper for other soiled clothes.
Clean clothes for dressing the baby after the bath.

For a soap-and-water bath, in addition to the things listed above:

Washbasin (or bathtub, which will be used later).
Soap and soap dish, to be kept with other toilet articles.
Washcloth.
Soft towel.
Extra blanket or towel.

For a tub bath the family tub, a washbasin, or a special baby tub may be used, or even a washtub.

THE FIRST BATH

For at least 12 hours after the baby is born he needs to rest, and he should not be disturbed to be bathed.

Some time after this and before the end of the first day most babies are given the first bath—an oil bath, which is to remove the white material left on the skin after birth. If the first oil bath does not remove all the white material, do not rub hard to get it off. It will come off at a later bath.

Some doctors, however, recommend that this material be left on until it disappears naturally. In this case it is usual to wipe the material from the baby's face and from the creases and folds of the skin with a little cotton dipped in oil, and not to give the complete bath until the baby is 1 or 2 weeks old.

After the baby's first bath, some doctors prefer that the daily bath should be an oil bath; others prefer soap and water.

OIL BATH

For an oil bath warm the bottle of oil by letting it stand in a basin of warm water. Pour about half an ounce of the warmed oil into a shallow dish into which pieces of cotton can be dipped easily.

Get everything ready, and then put the baby on the table, wrapped in a cotton blanket. Uncover part of his body and gently wipe it with absorbent cotton moistened with oil. Clean the rest of his body in the same way, never leaving him entirely uncovered. Care should be taken to wipe under the arms, between the fingers and toes, and in all creases of the body. In boys the foreskin should be pulled back and the tip of the penis cleaned. (See p. 33.)

Wipe off any oil remaining on the baby's skin and dress him. If any oil is left over throw it away.

SOAP-AND-WATER BATH

Before beginning the bath place the basin or the bathtub on one end of the dressing table or have it near the table so that the baby can be moved from one to the other easily. If a tub is used, it may be placed inside or near the family bathtub; if this is done, it is usually easy to fill the baby's tub with a rubber hose attached to the bathtub faucet, and to empty the baby's tub into the family tub. Only a hose that is clean inside should be used.

The water for the baby's bath should be lukewarm (about 100° F.). Feel the water with your elbow to see how warm it is. If it feels neither hot nor cold, it will be right for the baby.

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When everything is ready for the bath, undress the baby, leaving on the diaper, and wrap him in his blanket.

Wash the baby's face with clear water, using a soft washcloth. Lather his scalp thoroughly with your hand; then, holding him up with his head over the side of the basin or tub, dip the washcloth into the water and rinse his scalp quickly. In this way you can wash his head easily without getting soap into his eyes. Dry the face and head gently with a soft towel. Do not be afraid to wash the top of the baby's head thoroughly. By daily care "milk crust" or "cradle cap" may be prevented. (If it forms, rub in petroleum jelly or oil each night and wash the head thoroughly in the morning.)

Next unwrap the bath blanket and remove the diaper; if the buttocks are soiled, clean them with cotton dipped in oil. Clean the genitals as described on page 33.

If a sponge bath is being given, soap the baby on the table. Go over his entire body gently with your soapy hand or a soapy washcloth. Be sure to wash the creases in his neck and arms, between his fingers, between his toes, in each groin, and in the navel.

Rinse all the soap off the baby by wiping him with a washcloth dipped in clear water. If any soap is left on his skin, especially in the creases and folds, it may cause irritation.

When the bath is finished, dry the baby thoroughly, pat on a little oil, and dress him.

If a tub bath is being given, the baby may be put into the tub and soaped in the water, or he may be soaped on the table, as with the sponge bath, and then put into the tub for rinsing.

When you are ready to put the baby into the tub put your left arm and hand under his head and shoulders, grasping his left arm at the shoulder so as to hold him securely. With your right hand holding his feet and legs very firmly, lower him gently into the tub.

After he is in the tub keep on holding him with your left hand, resting your arm against the edge of the tub. Your right hand will then be free for washing and rinsing the baby. (If you are left-handed, of course, the hands are reversed.)

If the mother prefers to soap the baby first and then rinse him in the tub, she should remember that unless a baby that has been soaped is held securely he may slip out of her hands.

As the baby gets older he usually likes to play in his bath. If a tub with a firm bottom is used, some of the water may be let out of the tub when the bath is finished and the baby allowed to lie flat on his back in the tub and kick and play for a time. Care must be taken to see that he does not splash water in his face nor turn his head into the water.

When the bath is finished, take the baby out of the tub, dry him thoroughly, pat on a little oil, and dress him.

AFTER-BATH CARE

If the baby tends to chafe or have "diaper rash," oil is usually better than powder to put on him after his bath, as oil protects his skin from urine and stool. If oil is used, put a few drops in your hand or on a piece of cotton and pat it into the creases and folds of the baby's skin. Wipe off any excess oil with a little cotton. In hot weather it is better not to use oil.

If you use powder on the baby, do not use much, as it may cake and irritate his skin. Wipe off excess powder, especially in the folds of the skin.

Take care that the baby does not breathe in any powder. Always put your hand between the baby's face and the powder can when powdering his neck and chest.

Talcum powder is suitable for a baby, but do not use a powder containing stearate of zinc.

PLEASANT BATH TIME

Usually babies enjoy the bath, but sometimes a baby dislikes it. Especially is this so if he has been frightened at some time while being bathed. Water splashed onto him, soap in his eyes, water that is too cold or too hot, and the feeling of not being firmly supported are the things most likely to frighten a baby.

Try to avoid these things, but if you find that your baby does dislike the tub bath, give him a sponge bath for a few days, each day bringing him closer to the tub and using more water over his body. Usually in a short time he will go into the tub willingly. Never force a child into a tub.

Older babies may enjoy a floating toy or two in the bath.

CLEANING SPECIAL ORGANS

Eyes.—A baby's eyes may be washed with a soft cloth when his face is being washed. They do not need any other cleaning.

Ears.—A baby's ears can be washed also when his face is washed. Do not try to poke into them with anything other than a soft washcloth.

Nose.—Usually the baby's nose needs no cleaning other than that which is given with the washcloth when his face is washed. Sometimes, however, a little mucus stays in the nose, and it needs to be removed. This is best done by twisting a small piece of cotton, moistening it with water or mineral oil, and inserting it in the baby's nostrils with a twisting motion of the fingers. Keep hold of one end of the cotton so that it does not get out of reach. Never use cotton twisted onto a stick or other sharp instrument.

Mouth.—A baby's mouth does not need to be cleaned. The saliva keeps it clean. If you try to clean it you will probably put more dirt into it than you take out.

Genitals.—The baby's genitals need to be cleaned gently with the washcloth and soap and water during the bath.

In a girl the lips of the vulva should be separated and the parts washed.

In a boy the foreskin should be pushed up so that the tip of the penis can be cleaned. This can be done by putting two fingers on the penis and pushing the skin away from the tip, much as you would work your finger into the finger of a snug glove. Clean the part of the penis under the foreskin with cotton dipped in clear water or in oil. Then gently pull the foreskin back into place. The foreskin should never be left pushed up after cleaning.

Sometimes, if a mother has trouble in learning to clean the baby's penis, her husband or a public-health nurse can show her how to do it. If the foreskin cannot be pushed up easily, the doctor should be told. He may be able to loosen it so that it can be pushed up easily. If not, the baby may need to be circumcised.

Navel.—Wash the navel gently but firmly with a soft washcloth and soap and water.

SAFETY DURING BATH

Place the dressing table against the wall.

Make sure that the tub is on a solid support and that there is no danger of its falling.

Never put the baby into the bath while the tub is standing on a stove or heater.

Make sure that the bath water is not hot, as hot water will burn a baby's delicate skin. Test the temperature of the bath water by putting your elbow into it. If the water feels neither hot nor cold it is safe for the baby.

Never bathe a baby close to a stove.

Never use stearate of zinc, nor powder containing stearate of zinc.

Protect the baby from breathing in powder of any kind. Do not let the baby play with the powder can, even when you think it is empty.

Never use a toothpick or other sharp instrument to clean a baby's nose or ears, no matter how well covered with cotton it may be.

Never leave a young baby while he is in the tub. Never leave a baby alone for a moment with the water running.

When you take a safetypin out of the baby's diaper, stick it into something at arm's length above you, such as a pincushion, where the baby cannot reach it. When safetypins are not in use keep them in a closed container where the baby cannot reach them.

Always support the neck and back of a young baby when he is not lying flat.

Remember that a baby who is covered with soapsuds is slippery and needs to be held firmly so that he will not wriggle out of your hands.

CHAPTER 7

Sunshine and Fresh Air

SUNSHINE and fresh air are good for the baby. When the weather is bright and sunny and the air is balmy, or crisp and cool, nearly everyone enjoys being outdoors—babies, older children, and grownups. In such weather the baby, even the very young baby, should be outdoors as much as possible.

But extreme cold and dampness and extreme heat are not good for the baby. On cold, blustery days when there is a high wind, he is better off in a warm, well-ventilated room than outdoors. In hot weather the baby needs to be in the coolest place that can be found, whether indoors or outdoors; on the hottest days the house may be cooler than outdoors.

A good rule for the mother to follow is to take the baby out when the weather is such that she herself enjoys being outdoors. In winter, even when the temperature in the shade is low, if the sun is shining it is often possible to find a sunny spot, protected from the wind, where the baby can be outdoors in comfort during the middle of the day. Of course he will need to be well wrapped up, especially his hands, feet, and ears. A baby's face should never be covered.

Being bundled up keeps a baby from kicking and playing freely. When the baby is too young to run around it may be better, therefore, in cold weather to let him sleep when he is outdoors and have his playtime in the house, where he can be freer. If, however, he is being wheeled in a carriage, or if he can watch something that interests him, he will enjoy being outdoors even though bundled up.

A very young baby should be outdoors in cold weather only if the sun is shining, if he is protected from wind, and if the temperature of the spot where he is placed is at least 65° F. Take the wall thermometer from the baby's room and find out the temperature of the place where you are putting him. The temperature in a sunny spot is often 40° to 50° higher than that in the shade.

EFFECTS OF SUNSHINE

Certain rays of the sun—the ultraviolet rays—when they reach the baby's skin produce a substance called vitamin D, which enables the baby to use his food so as to build straight bones, strong muscles, and sound teeth. Ultraviolet rays cannot pass through clothing (unless it is loosely woven or very thin) nor through ordinary window glass, and they are greatly reduced by passing through a smoky or dusty atmosphere. In order to produce vitamin D in the baby's skin sunshine should fall directly upon the baby.

In most parts of the United States babies cannot get enough sunlight throughout the year to provide them with all the vitamin D they need. It is only in the tropical and subtropical parts of the country—Puerto Rico and the extreme South and Southwest, for example—that this is possible.

Year 'round, be sure your baby has fresh air and sunshine.

In the North Temperate Zone and in the far North, the ultraviolet rays are weaker in winter and are useful only when the sun is overhead.

Even in summer, in most places it is difficult to give a baby enough sunlight, for some days are cloudy and some are so hot that the baby should not be exposed to the sun very long. Some localities are so smoky that the babies get little benefit from the sun at any time of the year. It is best, therefore, for babies to get vitamin D not only from sunshine but also from some other source.

Vitamin D can be given to babies by using a special kind of lamp that produces ultraviolet rays or it can be given them by mouth in foods or special preparations.

"Sun lamps" are of two types—mercury-vapor lamps and carbon-arc lamps. Either type may be satisfactory for supplying the baby with vitamin D, but before using a lamp it is wise to obtain expert opinion as to whether it is really efficient. It is unwise to use any sun lamp without the advice and supervision of a doctor.

When one of these lamps is used the baby's eyes must be protected by goggles, and care must be taken not to injure the baby's delicate skin through overexposure.

Sun lamps are relatively expensive, and for most babies it is easier and just as satisfactory to give vitamin D in foods or special preparations.

Cod-liver oil has been for many years the principal food given to babies to supply vitamin D. Within the last few years other foods and special preparations have been made available for this purpose. (See pp. 88–90.) In most climates every baby should have one of these daily. Your doctor will tell you which one to use for your baby and how much to give.

SUN BATHS

Sun baths may be given when it is warm enough for the baby to be comfortable in the sun without clothes. In starting sun baths remember that a baby's skin is delicate and burns easily. At first expose a small part of the baby's body for a short time. If your baby is fair, with thin, white skin, be especially careful. Slight reddening and tanning of the baby's skin will show that he is benefiting from the sunshine, but not all babies tan, even in the sun. Gradually both the time the baby remains in the sun and the amount of his body exposed can be increased. But it should be remembered that too much sunlight may be harmful to the skin.

The baby's eyes will not be injured by sunlight unless the rays enter his eyes directly. This happens only when the eyes are turned toward the sun and are open. If the eyelids are closed or if the face is turned away from the sun, no harm will be done. If the baby lies with his feet away from the sun and his head slightly raised, his eyes will be protected by his forehead and eyelids. A baby old enough to sit up will protect his own eyes by turning and bending his head. As the baby gets older, much of his playtime can be spent in the sunshine, with few or no clothes in summer and with suitable warm clothes in winter.

CHAPTER 8

Play and Exercise

A HEALTHY BABY is very active. He moves about constantly when he is awake and does some moving even when he is asleep. When he cries he thrashes about vigorously.

A baby needs to be able to move all the parts of his body. He needs to exercise all his muscles, and he should always have freedom to do so. Neither his clothing nor his bedclothing should restrict his movements.

During the first month or so of the baby's life he is unable to turn himself over. It is therefore desirable during this time for his mother to change his position for him occasionally. As he grows older and becomes better able to control his movements, he learns to turn over, to pull himself around, to crawl, and finally to walk, and he should be allowed freedom to do all these things.

Exercise without any clothing is good for a baby. Bath time and just before bedtime are good times for the baby to have this free exercise. The room should be warm and the baby should be put in a safe place to play, such as on a blanket on the floor, or, better, in a play pen. He should never be left on a bed alone, as there is danger of his falling off.

PLAYING

At a very early age the baby moves his arms and legs aimlessly, closes and uncloses his hands, stretches himself, and tries to twist his neck. As he gets older and stronger and as his movements become more vigorous and he is better able to control them he begins to play. At first his play is quiet, but it becomes more and more active as the months pass.

A mother usually enjoys entering into her baby's play. Both of them enjoy the little games that mothers and babies have always played since time immemorial. Daily tasks can be done with a little play and singing thrown in. The play and the singing make both mother and baby enjoy the routine of life.

Babies enjoy having their fathers come into the play too. They also like to play with other children, especially their brothers and sisters.

The play must be suited to the baby—very gentle play for the tiny baby, slightly more active play for the older baby. It must not last too long nor be too exciting, especially before bedtime.

The baby who has satisfactory playtimes with his mother and father, and perhaps with others, can see his mother come and go and not demand her attention. He will play happily much of the time whether she is in sight or not. Such a baby, as he grows older, will actually like more and more to play alone part of the time. On the other hand, a baby who does not receive enough playful affectionate attention may feel the need for it so strongly that he demands his mother's attention as soon as he sees her.

A play pen is a good place for a baby to play alone. A busy mother appreciates having a place where she knows the baby can play freely but cannot creep near the kitchen stove, a tippy table, the stairs, or other danger spots.

A play pen gives the baby room for exercise and play and a place where he can pull himself up and have his feet on a firm surface. One or two toys may be tied to the pen, and one or two left loose. Use only short tapes for this purpose—long ones are dangerous. (See Choking, p. 98.)

If a toy gets beyond a baby's reach, toss it back to him—if possible before he realizes that it is gone. If the baby realizes that a toy is gone he may cry in an effort to get his mother to return it to him, and if she returns the toy in response to his cry, he may begin to throw his toys out of the pen for the fun of having his mother return them. When this happens it is better not to return the toys at once, so that he will lose interest in this game.

TOYS

A baby wants to suck and bite everything, and therefore all his toys should be of the kind that can safely be put into his mouth. They should be washable and should have no sharp points or corners. They should be so large that they cannot be swallowed, and they should not have bells or whistles that can come out and be swallowed. Rubber or bone toys are excellent.

When a baby's rattle is old it may come apart, and the little stones in it come out. Be sure to discard a rattle before this happens, as the baby might choke on one of the stones if he got it into his mouth.

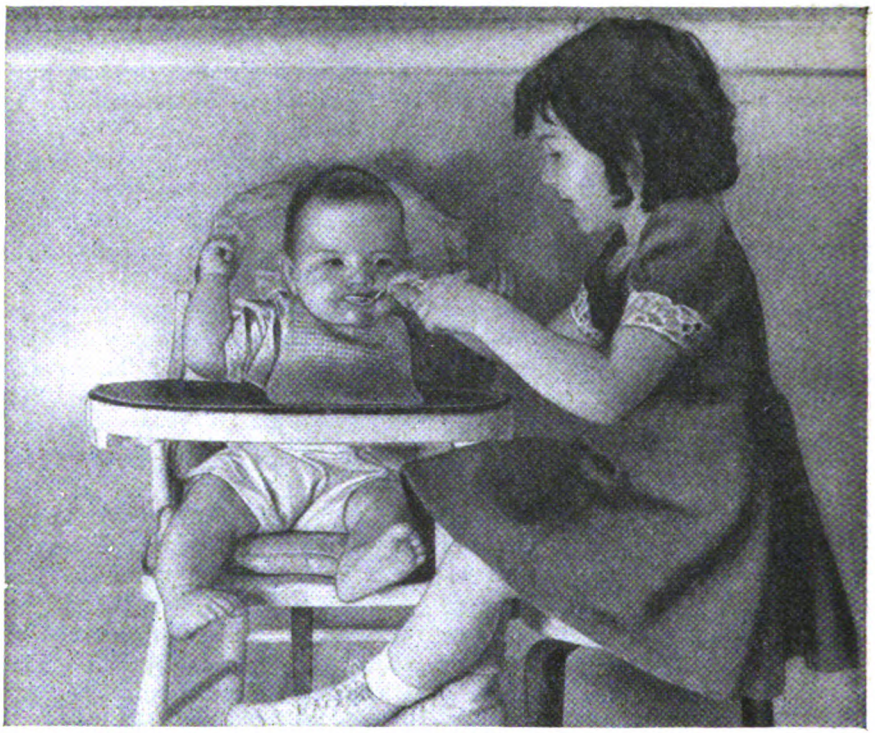
Some painted toys are unsafe because if the baby sucks them the paint will make him sick. Before buying painted toys inquire whether the paint used is harmless to babies.

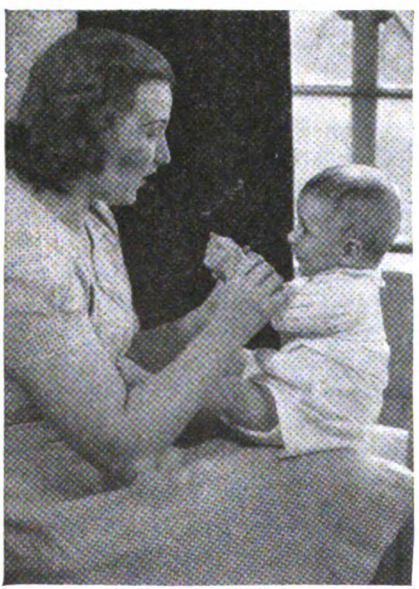
If floating celluloid toys for the bath are bought, it should be remembered that the very light ones break easily. When celluloid toys are broken, throw them away at once; the sharp edges of such a broken toy are dangerous to a baby.

A baby will not be interested in more than a few toys at one time. It is a good idea to keep the toys that he is not playing with in a box or cupboard. Give him time to explore one toy thoroughly before giving him another. Clothespins, or spools on a string, or a rubber doll, will probably please him more than expensive toys. Mechanical toys are not suitable for a baby.

The older baby needs toys that will help him learn to do things. He will enjoy blocks, a cup and spoon, a pie pan, a box with a cover which he can take off and put on easily, a large ball, a small wagon to pull along the floor, or a cloth book with large colored pictures of animals or of familiar objects.

When a baby first begins to walk alone he is often so absorbed in just walking that he may not want to play with toys, either old or new. He will soon become used to the joys of "going places" and will then be willing to return to his old interests and also to take up new ones.





Let the family help the baby feel that he is one of them.

CHAPTER 9

Habits

THE HEALTH, happiness, and efficiency of the older child and of the adult depend largely on the habits formed in early childhood. The habits of the little child are begun in the first year of life, some of them directly after birth.

A baby wants to repeat the things that give him pleasure and satisfaction. He does not want to repeat the things in which he does not find pleasure or satisfaction. Therefore, to help a baby form good habits, we must see that he gets satisfaction out of doing the things we want him to do. We must also see that he does *not* get satisfaction out of doing the things we do *not* want him to do.

As babies get older they get more and more satisfaction from their parents' words and smiles of approval and from any kind of attention. If the mother gives the baby attention and approval when he is doing what she wants him to do, it will be easy to get him to do it again. This will have a better effect on his training than scolding him when he does what she does not want him to do.

When the baby does something that the parents do not wish him to do, such as throwing his cup on the floor, they must try to see that he does not enjoy their response so much that he does it again just to get the response. Sometimes when the baby throws his cup on the floor his parents laugh at him and call each other's attention to the "cute trick." Of course this makes him do it again because he enjoys being the center of the stage. Sometimes when he throws his cup on the floor, parents may scold him and call him "bad" or slap him. About all he is able to understand of the grown-ups' behavior is that it is *he* that everyone is interested in, and he is likely to repeat the "trick" to get attention.

If the parents can succeed in making themselves pay little attention to the baby when he throws his cup on the floor, and if they praise him generously when he succeeds in drinking his milk without spilling it, he will act most of the time as the parents would like to have him.

It is to be expected that sometimes he will do things that are very annoying. From the baby's point of view it must be quite entertaining to watch the milk trickle onto the floor. He knows nothing about the trouble it causes. If he does not get too much satisfaction from doing such things he will not do them very often.

It is also to be expected that the mother will be cross sometimes over some of the annoying things all babies do. Mothers, like babies, are human. But a mother should try not to be cross very often.

A baby's behavior may be very annoying, but he is not willfully "bad." To be "naughty" or "bad" means that the child understands that one way of acting is right and the other is wrong and that he deliberately chooses the

wrong or bad way. Babies have no conception of right and wrong. They are exploring their world, and everything within reach is usable. It is the mother's fault, not the baby's, if he happens to upset and break a treasured vase. The mother should not have left it where the baby could get hold of it.

Eventually the child will learn to behave by imitating the people about him. In the meantime the parents should provide the baby with a place where he can explore his world and still be protected from harming himself and from harming the possessions of others.

Lessons learned by imitating are fixed much more firmly as part of the child's personality than lessons learned through force and punishment. A child who learns by imitating good behavior acts in the acceptable way because "that's the way we do." The child who learns because of fear is likely to act in the acceptable way only when he thinks something will happen to him if he does not. He will try to "get away with" as much as possible.

Long before he can talk, a baby can understand what is said to him. Mothers and fathers should be honest with their children from the very beginning.

For example, if a mother says, "Open wide; I have something my baby will like," it should be something that he does like—not bad-tasting medicine.

If you are leaving the baby alone in his bed or play pen, do not try to slip away while he is busy with a toy or some other interest. If you do this, the baby will lose a little of his confidence in you. But if you leave him in an open and matter-of-fact way, he can enjoy the times when you are with him without fearing that you might slip away when he is not looking.

Treating a child honestly is the only way to gain his confidence; it is the only way to teach him to be truthful. The older the child gets, the more important is his absolute trust in the truth of "what mother says."

EATING HABITS

Almost all babies enjoy eating. They learn very early in life that eating gives them pleasure. This feeling of pleasure is due not only to the relief of hunger but also to the things that go along with eating—the warmth of the mother's breast, the holding, the rocking, the human contact of being handled and cared for.

As the baby grows up the extra things he wants along with his food change. The young baby wants the warmth of his mother's breast. The older baby wants to hold his bottle, and the still older baby wants to help feed himself with a spoon. When he becomes an adult he will enjoy his food much more when he can have pleasant companions and cheerful surroundings.

Good food and pleasant surroundings are necessary for the greatest pleasure in eating, but it must not be forgotten that even more important is the need of being hungry at mealtime. In all human beings (including babies) hunger occurs at intervals, usually quite regular intervals. If we offer a baby food at regular times we usually find that he is ready for it at these times. Before we know it, he has developed good habits of eating; this in a baby merely means that he enjoys eating at regular times.

The First Nursing

The baby's first nursing at his mother's breast is his first step in the development of his habits of eating.

To make the first nursing successful both mother and baby should be ready for it by having had a good rest after delivery (about 12 hours).

The baby will probably be hungry, and he will probably be crying. If he is brought to the mother and laid down beside her and allowed a little time he will probably nuzzle around a little before he discovers the nipple. Do not hurry him. When he is ready he will grasp the nipple with his lips and after a few experimental movements with his lips he will probably settle down to suck. The baby will not get much food at this nursing and will probably stop sucking in a short time. It is not wise to try to make him suck longer than he wants by putting the nipple in his mouth again and again or by any other means.

When he has stopped sucking offer him a drink of boiled, cooled water from a nursing bottle.

If he does not suck, it may be that he is not hungry and needs to wait a little longer before nursing.

Later Nursings

As soon as the milk comes into the breast the baby will want to nurse longer. He should always be allowed to nurse until he is satisfied or until he has emptied the breast. Sometimes a very young baby will not suck long enough to get sufficient milk. Gently rousing him will usually be sufficient to make him continue nursing. It may be necessary for the mother to try to keep him awake long enough to get enough milk.

After the mother is out of bed her position for nursing should be as com-

Let your baby take plenty of time at his first nursing.

fortable as possible, so that she may relax during the nursing period. Some mothers prefer to lie down to nurse the baby; others find sitting in a chair more comfortable, especially a rocking chair. If an armchair is used the mother can rest her elbow while she holds the baby. When the chair is low or when a footstool is used, the mother's lap will be flat and firm. If an armchair is not used a folded blanket or a cushion may be placed on the mother's lap to support her arm.

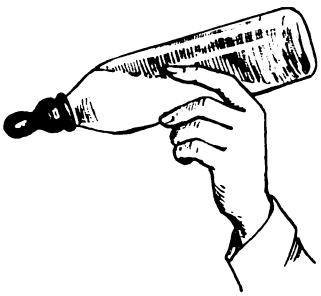
Hold your baby over your shoulder to let him belch.

After the baby has finished eating, the mother should hold him up over her shoulder and pat him gently on the back, to help him get rid of the air he swallowed as he nursed. It is sometimes 3 to 5 minutes before this air is raised. There can be no doubt when it occurs, because the baby makes a loud belching noise. If the air comes up when the baby is lying down, a mouthful of milk is likely to come up with it. This spitting up of a mouthful of milk is not the same as vomiting. Spitting up can usually be prevented by "belching the baby" after feeding.

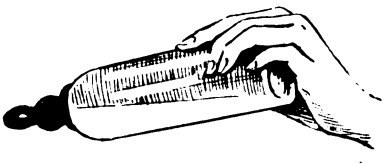
If the baby is not nursing well, it may be because he has swallowed an unusually large amount of air and needs to get rid of it. If this seems to be happening, stop the nursing and hold the baby over your shoulder for a few minutes.

Bottle Feedings

For the baby who cannot be breast-fed the first feeding from a bottle should be given in much the same way as a first feeding from the breast. The baby should be held in the nurse's arms; he should be allowed to nuzzle around, feel the rubber nipple with his lips, let go of it if he likes, and take his time in settling down to suck. He should be allowed to take as much as



Right way to hold bottle.



Wrong way to hold bottle.

he wants of the milk mixture. Later, when the mother is giving the baby his feedings she should hold him in her arms in much the same way as though she were feeding him from her breast.

A young baby should always be picked up to be given his bottle. Do not give a young baby his bottle while he lies in his crib, and never prop his bottle up for him and leave him alone to eat. When holding a bottle for a baby always tip it so that the nipple is kept full of milk. If the nipple is not full of milk the baby sucks in air, which sometimes makes it hard to take the milk or causes colic-like pain.

The baby who is fed from a bottle should be "belched" just as is the breast-fed baby.

Mealtime Quiet and Pleasant

Whether the mother feeds her baby at the breast or from a bottle she should not be disturbed while feeding him. She should be comfortable, quiet, and unhurried. She should try to arrange her other activities so that, during the feeding time, she will not be interrupted nor called upon to attend to other matters.

The baby, to enjoy his meal, needs to be dry and comfortable, and during his early months he needs the holding and cuddling that accompany feeding.

An older baby often likes to play during the feeding period. The mother should see that the baby does not become so interested in the play that he forgets to eat. She can do this by not showing interest in the play until he has finished eating.

Feeding Intervals

If after the first feeding the baby is fed at fairly regular times, he will soon become accustomed to eating regularly. Every baby does not, of course, become hungry at exactly the same intervals. But a very large number of babies do become hungry about every 4 hours, and if fed at 4-hour intervals they will soon wake up at about the scheduled time, ready for a meal. Some babies do better if they are fed every 3 hours. It is possible to find for each baby some time interval that suits his needs, and it is therefore neither desirable nor necessary to force him into any schedule merely because that schedule has been found to be good for some other baby.

The 4-hour schedule has been found to fit the needs of most babies, and therefore it is a good idea to try a baby on this schedule. The times set for feedings on this schedule are, as a rule, 6 a. m., 10 a. m., 2 p. m., 6 p. m., 10 p. m., and 2 a. m., though some mothers prefer 7, 11, 3, 7, 11, and 3.

If during the first few days the baby is wakened at 4-hour intervals he is likely to become accustomed very soon to eating at these times.

If your baby wakes up and cries with hunger at times other than those scheduled for feeding him, it may be that he needs different feeding intervals, and the doctor should be consulted. (For discussion of crying, see p. 60.)

The baby should be wakened for each feeding on his schedule except the one at 2 a. m. This feeding will be given up by most babies 3 to 4 weeks after birth. It is not wise, however, to make the baby go without this feeding before he is ready to do so. Babies are not all alike with respect to the age at which they are able to skip the 2 a. m. feeding.

The baby will likewise give up the 10 p. m. feeding as soon as he is ready. By the time he is 4 to 5 months old he need not be wakened for it, and he will probably sleep until morning. If he

does not, but wakes up later in the night hungry, it is usually more convenient to continue the 10 p. m. feeding a little longer.

The 4-hour schedule during the day can be continued throughout the first year for most babies. Sometimes a baby is ready to change to a three-meal-a-day schedule in the last month of the first year, but most babies are 14 to 18 months old before they are ready for this.

The Baby's Appetite

A baby will eat until his hunger is satisfied. A baby does not always want the same amount of food at each meal any more than a grown-up always wants the same amount. If the baby has been exercising vigorously he may want more than the usual amount. On the other hand, for some reason he may not want as much as usual. Trying to force him to take more milk than he wants may make eating so unpleasant that he will not be so eager to eat the next time. Sometimes lasting dislikes start in just this way—forcing a baby to eat. This is more apt to happen to a bottle-fed baby than to a breast-fed one. The mother of a breast-fed baby cannot see how much milk her baby has taken, and so she is not likely to urge him to take more than he wants, but the mother of a bottle-fed baby knows how much he has eaten and may be worried if he does not finish his bottle. The baby's appetite is the best guide to the amount of food he needs.

Time Necessary for Feeding

The usual length of time for feeding, either at the breast or from a bottle, is between 10 and 20 minutes. Occasionally a vigorous baby may take enough milk in 5 minutes, and a feeble baby may nurse so slowly that it will take him the full 20 minutes to obtain a meal. It is usually not wise to allow a baby to nurse at a breast after it is empty. If the baby empties the breast in 5 minutes and still appears to be hungry he may be given the other breast. If the baby is unable to get as much milk as he wants from both breasts, he may need to be given extra milk from a bottle. (For preparation of single feedings, see pp. 81–82.)

For the bottle-fed baby the holes in the nipple should be adjusted so that he will take his feeding in 10 to 20 minutes. (For method of adjusting holes in nipple, see p. 77.) If the holes in the nipple are too small the baby will have to work so hard to get his milk that he will be tired out before he has had 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 his milk. This may lead him to start sucking his fingers. (See p. 55.) Try to keep the baby awake until he has had enough milk, but do not try to force him to finish a bottle.

Beginning To Eat Solid Foods

When the baby gets his first taste of cereal, he is starting a new experience. We should like him to enjoy it and to want to repeat it. Just as the first nursing is important in the development of the baby's habits of eating, so too is his first approach to another kind of food and another way of eating.

Up to the time when cereal is first given to the average baby he has never taken any food except liquids and knows but one way of satisfying his appetite—namely, sucking, from which he gets great satisfaction. When a small amount of cereal is put into his mouth he does not know what to do with it. When the spoon touches his lips it at once stimulates sucking move-

ments, but sucking movements do not necessarily result in his swallowing the cereal. They are more likely to result in his spitting it out, because he does not yet know how to swallow it.

If the cereal stays in his mouth, you can see him feeling it with his tongue, turning it over, finding out for himself what it is. His face often shows surprise or curiosity. If now you will encourage him by looking pleased and speaking of the "nice cereal" and by telling him to swallow the cereal, you will let him see that you are pleased with his attempt. If he pushes it out of his mouth with his tongue, give him another small portion to try again. Do not laugh at his funny faces. Treat the situation as a serious but pleasant lesson in eating. Praise him for trying; do not scold him for not doing it right the first time. He will thus learn to associate eating with pleasant words and looks.

By allowing the baby during his first year to get used to eating some foods that are not in liquid or semiliquid form, as an introduction to solid foods, the mother can avoid later difficulties in feeding.

When giving a new food, give only a small amount—two or three tastes the first day and four or five tastes the second day. Gradually the baby will get used to the new food and learn to swallow it. If he continues to make faces and push it out, it is because it is still new to him, not because he does not like it. He has to learn how to eat it. Whether he learns to like it or not depends upon whether he learns to associate pleasure and satisfaction with eating it. This association depends largely upon your attitude and behavior. Take for granted that he will like every new food. Offer it to him in small amounts every day until he eats it well. Never ask him whether he likes it. Do not let the expression of your face show that you think he does not like it. Do not suggest to him in any way that he may not like it. A little baby is not too young to understand your attitude, even though he may not understand your words.

Many babies learn quickly and well to eat new foods, but some babies learn slowly. Offer new foods to the baby when he is well. If a new food is offered when he is coming down with a cold and his appetite is not good, he may take a dislike to the food that will last after he is well again.

Do not be anxious nor worried if your baby is slow in learning or if he refuses to eat. If you are, the baby will know it, and he will soon learn to get extra attention from you by continuing to refuse. All babies want attention; give your baby plenty of attention when he eats well, and do not give him extra attention when he will not eat. Be patient and persistent. Do not coax. If the baby refuses to eat a food, take the food away without showing any excitement, offer it again a week or so later, and the baby will very likely have forgotten his objection to it. Always give the new food before the nursing or the bottle feeding, when the baby is hungry. Never give more than one new food at a meal. Praise him when he does well with a new food.

A baby learns to like a large variety of foods if they are given to him in such a way that he gets satisfaction out of eating them. He will not cry for foods that he has never tasted; do not let him taste foods you know are not good for him.

Giving Up the Breast

The change from breast to bottle feeding is a big step for the baby in growing up. Later steps will be easier if the baby finds this one pleasant.

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Let your baby feed himself as soon as he wants to, but don't hurry him.

If the change from breast to bottle feeding is made gradually so that the baby gets accustomed little by little to the new method of feeding he will take the step forward gladly. If the change is made suddenly he may resist it.

If a baby has had an unfortunate weaning experience, even though he later learns to take his milk from a bottle, the feeling brought about by the unhappy experience may reappear when the next forward step is to be taken.

It is a great help in weaning the baby if he has had some experience with a bottle in his first months of life. During these months it is a good plan to give a breast-fed baby small amounts of milk mixture from a bottle now and then merely to accustom him to that method of taking milk. At times an entire breast feeding may be replaced by a bottle feeding. (See p. 70.) Taking orange juice or water from a bottle is also a help.

If when the time for weaning comes the baby is familiar with the bottle he is likely to be willing to take a whole bottle feeding instead of a breast feeding, once a day. He will take the bottle more readily if he is held in his mother's arms for the bottle feeding as he is for breast feeding. Otherwise he has to get used to a new position as well as to a new method of taking food.

More and more bottle feedings may be given instead of breast feedings as time goes on. The time it will take to complete weaning will vary a good deal. Weaning can be done just as rapidly as the baby will accept it, but it is a mistake to try to rush it. Many mothers prefer that the early-morning feeding be the last one to be made a bottle feeding. (For a suggested plan for weaning, see p. 71, and for milk mixtures to be used during weaning, see p. 83.)

In an emergency there may be no time for gradual weaning, and a baby may have to be taken off the breast suddenly. If this happens every effort should be made to make the sudden change as easy as possible for the baby. It will help to make the weaning easy for him if the nurse, or whoever gives him the bottle, holds him in her arms while feeding him.

Holding the Bottle

Many babies like to hold the bottle when they are 7 or 8 months old. When this happens it means the baby is growing up and is beginning to want to take a more active part in his world. At first the baby puts his hand out and touches the bottle in his mother's hand; later he grasps it, and finally he holds it some of the time—though he is apt to tire before the feeding is finished. Still later the baby may wish to hold the bottle entirely by himself. When this stage is reached the baby may be given the bottle in his crib. The bottle should be taken away from him as soon as he has emptied it.

Some babies never want to hold the bottle. If your baby does not want to hold it, do not try to make him do so.

Spoons and Cups

When a baby sees his mother using a spoon to feed him he usually wishes to use one also. Let him have a spoon—even if he is messy. The joy that a baby gets from directing a bit of cereal into his mouth is taking the place of the joy he got when he was younger at being held in his mother's arms at feeding time.

While the baby is struggling to get a few bits of cereal into his own mouth, the mother may sit near by and use another spoon to get the rest of it in. Sometimes a baby wants to put his food

into his mouth with his hands. Let him do it occasionally. It adds to his joy in eating.

A baby likes to hold his cup, as he likes to hold his spoon. Steady it for him but let him do as much as he can.

When a baby 7 or 8 months old is being weaned his milk may be given him in either a bottle or a cup. If he already has had water from a bottle or a cup, he will probably like whichever one he is used to. Many babies at 8 or 9 months learn at once to drink from a cup, and thus will not need to learn to give up the bottle a few months later.

Giving Up the Bottle

Giving up the bottle for the cup is also a big problem for the baby. Let him take his time about it. Offer him a cup and let him play with it. Let him have a few sips from the cup just to become familiar with it. Soon he will want to take more and more milk that way. It makes little difference at exactly what age bottle feeding is given up for good. It makes a great deal of difference to the baby's future mental and emotional health that he does not feel cheated out of something important to him, but that he does feel that he is giving up a baby way for a grown-up way.

SLEEP HABITS

Habits of sleep develop in much the same way as habits of eating. A tired baby learns that sleeping is pleasant. If we make him comfortable—by feeding him, by making him dry, and by adjusting his covers to the temperature—and if he is tired he will go to sleep, and we shall soon find (perhaps to our surprise) that he has developed the habit of sleeping at regular times.

Sleep habits, like eating habits, so easily established in early infancy, will be maintained only if the baby continues to get satisfaction out of them.

If a mother disturbs her baby's sleep by waking him up to show him off to friends or to go out with her she soon finds he does not want to go back to sleep.

He first learns to associate going to sleep with the pleasant feeling of food and warmth and sleepiness he had after his meal. He does not associate going to sleep with the uncomfortable feeling he has after being waked up and disturbed. If this happens often he will learn to go to sleep again. But then he may not wish to sleep immediately after his feeding. And his mother will complain, "The baby just won't go to bed at 6," or "The baby won't go to bed until I do."

Amount of Sleep

Just as some babies need more food than others of the same age, some need more sleep. This is to be expected, for every baby is a little different from every other. It is not possible to make exact rules as to how much sleep babies need.

As a rule a very young baby sleeps from 20 to 22 hours of the 24; a baby 1 or 2 months old, about 18 to 20 hours. When the baby is about 6 months old, he is likely to sleep 15 to 17 hours—12 hours at night with only one interruption for feeding, 2 or 3 hours in the morning, and 1 or 2 hours in the afternoon. Some babies need less than these amounts of sleep; some need more.

The long night sleep should be continued throughout childhood, but the daytime naps will be gradually shortened. During most of the first year the baby usually requires one long nap and one short one during the day. Soon

after the first birthday, or even before then, most babies give up the short nap and have one long nap a day in addition to the night's sleep.

When a baby gives up the short nap it is usually time to put him on a three-meal-a-day schedule. The long nap may then be taken before or after lunch.

Sleeping Conditions

The conditions that make sleep refreshing to older persons help the baby's sleep also; namely, plenty of fresh air passing in a current through the room, no light shining in the eyes, quiet, a clean body, clean, comfortable night clothes, a good bed, and suitable covering.

It is best for a baby to sleep in a bed by himself. For a young baby it is also safer because when a baby sleeps in a bed with anyone else there is some danger of his being smothered.

As the baby gets older there is usually more difference between his play clothes and his sleeping clothes. The baby usually will be more comfortable and will realize that it is time to sleep, if at naptime, as well as bedtime, he is washed and changed into his sleeping clothes before being put into his crib.

If possible a baby should sleep in a room by himself, where he need not be disturbed by the presence of other persons and where light, heat, and ventilation may be adjusted to his needs.

For the very young baby the temperature of the room should not go below 70° F.; for the older baby it should not go below 55° F.

If the baby cannot have a room to himself it is better, during the latter half of the first year—and throughout childhood—for him to sleep in a room with other children, rather than in his parents' bedroom. Babies and young children waken when least expected to, and some authorities believe that lasting fears may result if a baby, sleeping in his parents' bedroom, wakens when his parents are having marital relations.

The baby should be expected to sleep through the ordinary household noises. It is not necessary to walk on tiptoe or talk in whispers when he is sleeping, but he needs a reasonably quiet place for his naps as well as for his long night sleep.

Sleeping Routine

In developing good sleeping habits regularity is important.

In the early months of life a baby sleeps most of the time, waking only for food. During these early months there is seldom any problem in getting a baby to sleep.

As he gets older he stays awake a longer and longer part of each day. Usually the first wakeful period is in the afternoon, before the 6 o'clock feeding. As soon as this waking period develops there is also a real bedtime, which needs careful management from the beginning.

After a quiet playtime, free from excitement, the baby is prepared for bed. He is washed, his diaper is changed, and his night clothes are put on if they are different from the day clothes. He is then fed, he is cuddled a little if both mother and baby enjoy it, which they usually do, and his diaper is changed again if necessary. Then he is quietly laid in his bed with the coverings adjusted to the temperature. The window should be partly raised—the amount depending upon the weather—the lights put out, the door closed, and the baby left to go to sleep. If this is done at the same hour every night, the baby will soon be accus-

tomed to going to sleep when he is put to bed.

As the baby becomes a little older he will have a playtime in the morning, followed by a nap, as well as in the afternoon. The same routine of going to bed may be used at naptime as at bedtime.

Of course, most parents want to go out in the evening occasionally. It is good for them to go out, and it is good for them to go together, but the baby should never be left alone in the house. The parents should get someone to stay in the house with the baby, even if such a person is hard to find. When parents realize that it is important to get the baby to bed at his regular bedtime and not to disturb him, and that it is still more important not to leave him alone in the house, nor only with children to look after him, they will make a great effort to have a friend or neighbor come in and stay when they want to go out. Neighborhood cooperation often solves the problem.

Some parents go often to the home of some friend or relative, where it is possible to put the baby to bed in very much the same way as they would do at home. When parents can do this they can enjoy an evening away from home and take good care of their baby at the same time. But if parents do take their baby with them they should be sure that there will be a quiet place for him away from the grown-ups and other children, and not trust to luck to find some place for him.

If the baby is accustomed to going to sleep soon after being put to bed and to staying asleep he will not cry unless something unusual is the matter. If he does cry the mother should try to find out what is wrong. He may be wet or uncomfortable in some other way. He may be sick, and if the mother suspects that he is, she should take his temperature. (See p. 117.) If he is not sick, he will probably go right to sleep when he has been made comfortable.

Sometimes, however, in spite of having had all the usual things done for him, even a well baby will not go to sleep but will continue to cry. A baby sometimes cries because he wants a little more attention. He probably needs a little extra attention under some circumstances just as he sometimes needs a little extra food or water or sleep. Babies want attention; they probably need plenty of it, and if your baby wants a little extra, give it to him just as you would give him a drink of water when he is thirsty. As a rule the attention that a healthy, well-adjusted baby wants will not be excessive, any more than the amount of food or water he wants. Often he will be satisfied with a little gentle patting. If he has been crying hard, pick him up and hold him a few minutes until he quiets down. Then put him back to bed with a few soothing pats. It is a mistake to make a baby "cry it out" just because the mother is unable to find the reason for his crying.

A little forethought may often prevent a crying spell. If the baby has had an exciting day—if he has been on a trip or has had a number of visitors—a little rocking and a song or two at bedtime will often soothe him and bring back his accustomed peaceful attitude.

Keeping the Baby Comfortable

In Cold Weather.

To keep a baby warm in cold weather and at the same time give him enough fresh air is somewhat difficult. When the weather is moderately cold several lightweight wool blankets will be needed. If it is not possible to heat the room the baby should wear a

warm shirt and a warm nightgown. His hands should be covered either by the sleeves of the sweater or nightgown or by mittens.

Before the baby is put into the bed a hot-water bottle, an electric pad, or a warmed bag of sand may be used to warm it. If something is to be left in the bed to keep his feet warm, it must be well wrapped up and must be only warm, *not hot,* for the baby's flesh is delicate and is easily burned. Hot-water bottles must be carefully stoppered. Electric heating pads are not safe to leave in a baby's bed.

In Warm Weather.

In warm weather the baby needs only light night clothes. In hot weather a diaper and a lightweight, sleeveless shirt are enough, or just a diaper. When it is a little cooler a thin nightgown and a lightweight blanket may be needed also. The room should be made as cool as possible. If the baby's own room cannot be made cool it may be better to move his bed temporarily to another place, where he can be more comfortable. An electric fan will keep the air in motion and thus relieve the worst of the heat. The fan should be arranged so that the current of air blows upward—toward the ceiling, not toward the baby.

If there is a sleeping porch on which the baby can be protected from the wind, his crib may be put on it when the weather is warm enough. Unless the porch is screened the crib should be covered with a netting to keep off flies and mosquitoes.

The mother must be always on her guard against a sudden drop in temperature and be ready to put extra covering on the baby or to bring him indoors if he is on a porch or in the yard.

A Few "Don'ts" About Sleep

Don't give the baby any sort of medicine to make him sleep, except under the doctor's orders. All soothing sirups and other similar preparations contain drugs that are bad for a baby, and many of them are exceedingly dangerous.

Don't take the baby up after he has gone to bed to show him off to visitors.

Don't take the baby out in the evening to movies, nor for an automobile drive. Good habits of sleeping cannot be maintained unless the baby is put to bed every night at the same time. A baby who is taken out in the evening not only loses some part of his long, unbroken sleep, but he may be overstimulated by lights and noise and may be exposed to persons with colds or other communicable diseases.

Don't leave the baby alone in the house during the daytime or at night, not even if he is sound asleep.

Don't let the baby get into the habit of going to sleep with a bottle.

TOILET HABITS

Bowel Training

When a baby can sit up by himself, when he begins to pay attention to what is said to him—usually at 8 to 10 months—is a good time to start training him to have a bowel movement when he is on a chamber or a toilet seat. It is possible to start training much earlier, but, regardless of when training is started, babies as a rule do not learn to control their bowel movements much before they are 10 to 12 months of age.

Some babies have a bowel movement at almost exactly the same time every day, so that it is possible for the mother to put the baby on the toilet when she

sees he is about to have a bowel movement. This is a good thing to do if you can do it easily, as it saves having a soiled diaper to wash, but it should not be confused with real training. One mother who did this was asked whether her 5-month-old baby was trained. "No," she said, "he is not trained, but I am."

In real training the baby learns to take part in the effort and to try to wait until he is on the toilet before he has the movement. A baby cannot do this until he can control the muscles of his bowels. Usually by the time the baby is 8 to 10 months old he will begin to be able to do this. At this age, however, he will not be able to delay the bowel movement for more than a short time, nor to make a stool come ahead of the time it would come of itself.

To start training, notice at what time the baby usually has a bowel movement. (This is usually 10 to 20 minutes after a feeding—most often after breakfast.) At the time when the baby usually has a bowel movement watch him closely, and if possible put him on the toilet when he is just about to have the movement.

At first the baby will not understand what is expected of him, and you may have to put him on the toilet daily for several days before he has a movement there. When he does so, show your approval so that he will understand that this is what you want him to do. If, each time you put him on the toilet, you make certain sounds and gestures, he will learn to associate these with having a bowel movement and to understand what is expected of him. The baby should not be allowed to remain on the toilet for more than about 10 minutes.

Most babies will have at least one movement every day, but for some babies it is normal to have a movement only every second day. Many breast-fed babies have two to four bowel movements a day.

The training should be continued by placing the baby on the toilet at about the same time every day.

If the training is started at a time when the baby is old enough to cooperate, he is likely to learn soon to have his bowel movement at the toilet, and probably training will be more or less complete in 4 to 6 weeks. Accidents will occur, however, from time to time for several years.

It is not necessary to use suppositories, soap sticks, or enemas to train the baby; in fact, these may actually do harm by making him expect them.

Do not start bowel training and weaning at the same time. One of these or both may be hard for the baby. Let him learn only one hard thing at a time.

Bladder Training

Control of the bladder is more difficult to establish than control of the bowels and is, therefore, begun a little later. Soon after bowel-movement control is fairly well established the baby may be placed on the toilet after each feeding and often he will pass urine. Approval may be shown by the mother whenever the baby urinates into the toilet. Even after a baby has become accustomed to passing urine into the toilet after meals and after waking up from a nap, it will be some time before he learns not to wet his diaper between times.

Most babies will develop daytime control of the bladder and will learn to tell when they want to go to the toilet between the second and third birthdays, although some learn more quickly than others.

When the baby begins to walk, diapers should be discarded for pants. Many children seem to grasp more easily the idea of going to the toilet for emptying the bladder when they wear pants instead of diapers.

Children usually learn night control of the bladder between the second and third birthdays, after control during the day is well established. The mother must remember that as she is trying to establish the "dry" habit it will not help to leave the wet clothing on. If the child wets himself by accident the pants or diaper should be changed at once. He should be praised when he keeps dry. He should not be scolded when he has an accident.

UNDESIRABLE HABITS

Thumb Sucking

Thumb sucking or finger sucking develops in a great many babies during the first year, most frequently between the fourth and tenth months of life. A baby explores everything within his reach. He looks at a new object, feels it, squeezes it, and almost always puts it into his mouth. He knows how to suck because he has learned to get his food in that way, and naturally he sucks on whatever he puts in his mouth.

Babies enjoy sucking. Usually they get all the sucking they want while they are taking their food, but if the milk flows very freely they may have their hunger satisfied before they have had enough sucking. Frequently the baby discovers he can suck his fingers, and so the habit of thumb or finger sucking develops. Usually the child will outgrow the habit unless too much fuss is made over it.

If a baby sucks his fingers it is sometimes helpful in the very beginning to see that he is allowed to suck longer during his meals than he has been doing. The breast-fed baby may be allowed to stay at the breast an extra few minutes; the bottle-fed baby may be fed by means of a nipple with somewhat smaller holes, so that it takes a little longer to get the milk.

As the baby gets older it sometimes happens that he persists in sucking his fingers or his thumb because the sucking gives him comfort and satisfaction. Giving him comfort and satisfaction in other ways, such as a little more attention, a little "mothering," will help.

Keeping the hands occupied with some toy is an excellent way of diverting his attention from sucking. Punishment or restraint is never helpful.

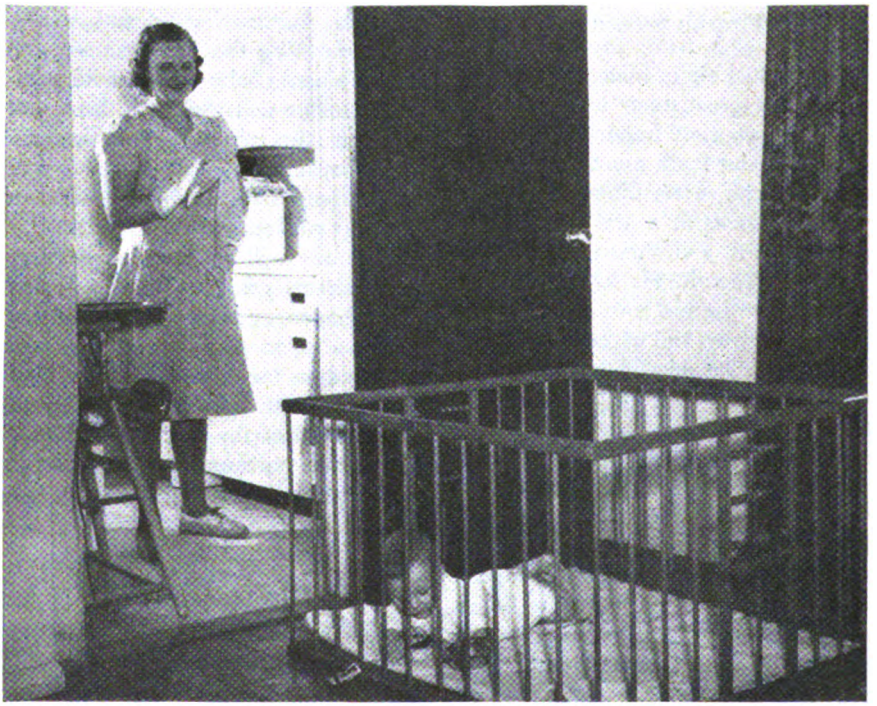
Handling Genitals

Babies want to handle and investigate everything that they can see and reach. When a baby discovers his genital organs he will play with them, and he learns that pleasant sensations can be had by handling his genitals. A wise mother will not be concerned about this, and will not punish the baby.

The baby will not spend much time handling his genitals if he has many other interesting things to do. See that he has a toy to play with, and he will not need to use his body for a plaything. As with thumb sucking, sometimes an older baby persists in handling his genitals because he gets comfort and pleasure from doing it. Giving him comfort in other ways will help.

Playing With Stool

Almost all babies will play with their stool if they have the opportunity. This is natural during babyhood and it will be outgrown. Don't scold a baby for doing it; just clean him up as soon as he has had a bowel movement.



If your baby gets enough affection he can see you come and go without demanding more attention.

CHAPTER 10

The Baby's Day

MOST BABIES can get used at an early age to eating and sleeping at regular times, and they are usually happier and eat and sleep better if habits of regularity are established.

During the early weeks of life a baby sleeps almost all the time, waking only for food. If, during the first few days, he is offered the breast (or a bottle) at regular times—every 4 hours for most babies—he is likely to form the habit of waking up and wanting food at these times.

Though most babies fit easily into a plan of feeding every 4 hours—for example, at 6, 10, and 2 o'clock (until the 2 a. m. feeding is given up)—some babies will need a different schedule. For some, feedings every 3 hours are better. Occasionally, as a baby gets a little older and is awake more of the time, a mother will find that at one of the feeding times the baby is usually too sleepy to eat. By shifting the hours of feeding to a time a little earlier or a little later, she can adjust the schedule so as not to interfere with his hours of sleep. Often the whole schedule can be shifted; for example, if the baby is always sound asleep when it is time for the 2 p. m. feeding, a plan of feeding at 7, 11, 3, 7, and 11 may suit him better. But if the same baby is awake and hungry at 6 a. m., such a change will not suit him, and it may be better to change only one or two of the feeding times; for example, it may be best to give his feedings at 6, 10, 2:45, 6:15, and 10.

There are no fixed hours at which every baby should be fed. If your baby does not fit into the routine you plan for him, try to change the plan to suit his needs. After you find the best routine for him, however, try to keep to the same plan each day. Babies thrive on doing the same thing at the same time, day after day.

The majority of babies will fit themselves easily into the plan that you make for them, as long as it provides for regular feedings and regular hours of sleep. It is usually possible, therefore, for the mother to consider her own convenience in planning the baby's day. In some homes it is easier for the mother to start the day early, with the first feeding at 5 a. m. and the last at 9 p. m. (after the 2 a. m. feeding is given up). For others a later start, say at 7 a. m., is more convenient.

There is nothing rigid, therefore, about the feeding hours that are shown in schedules such as are given in the suggested plans that follow. It is usually best for the mother to take such a plan, shift the hours a bit one way or the other if this is more convenient for her and the household, and then follow the plan until the baby shows that some other plan would suit him better. He may show this by crying regularly half

an hour or more before feeding time or by sleeping through feeding time. If the baby cries before it is time for him to waken for his feedings, it may be that he needs more food rather than a change in his schedule, and the doctor should be consulted regarding a change in his feeding.

First Four Months

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 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 the 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, lights out, windows adjusted for night, door shut.

10 p. m... ***Feeding.*** Breast or bottle feeding.

2 a. m.... ***Feeding.*** (Before end of second month most babies give up this feeding. Some give it up soon after birth.)

Beginning about the second or third month most babies will have a waking period in the late afternoon. This will develop into a playtime as the baby gets older. It is wise to let the baby spend part of this time by himself so that he may get used to being alone.

Fifth and Sixth Months

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 baby in time to allow for exercise and play before bath.

10 a. m... ***Feeding.*** Cereal and 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 the afternoon nap.)

2 p. m.... ***Feeding.*** Egg yolk, vegetable (after baby is 5 months old), and 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.*** Cereal and breast or bottle feeding.
Bed, lights out, windows adjusted for night, door shut.

10 p. m... ***Feeding.*** Breast or bottle feeding. (If baby does not waken, this feeding may be omitted.)

During these months the baby usually has longer and longer periods when he is awake, especially before the 2 and 6 p. m. feedings. If he is wakeful at night it may be well to waken him a little earlier from his afternoon nap.

The baby should spend part of the time he is awake alone with a toy or two, in a place where he can play safely—in his crib or play pen, or on a pad on the floor—but part can be a playtime with the mother or father or other children.

Seventh, Eighth, and Ninth Months

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 baby in time to allow for exercise and play before bath.

10 a. m... ***Feeding.*** Cereal and 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 the afternoon nap.)

2 p. m.... ***Feeding.*** Egg yolk or meat, vegetable, and 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.*** Cereal, fruit, and breast or bottle feeding.
Bed, lights out, windows adjusted for night, door shut.

When the baby is 7 months old consult the doctor about weaning him.

The baby can now begin to learn to take some of his milk from a cup.

Most babies at this age will begin to shorten either the morning or the afternoon nap.

Tenth, Eleventh, and Twelfth Months

About the tenth month some babies are ready for a schedule of three meals a day. Many babies are not ready for this schedule until 2 or 3 months later; these may continue on 4-hour schedules.

The three-meal-a-day plan that will best suit your baby and yourself will depend partly on the habits he has already formed, such as the time when he takes his nap, and partly on what fits into your day. One such schedule follows.

6 a. m. (or a little later, depending upon when the baby wakens).
Orange juice.
Sleep or play, alone in crib.
Wash and dress baby before breakfast.

7:30 a. m.. ***Breakfast.*** Cereal, toast, milk, cod-liver oil.
Play, out of doors when the weather is suitable. Let baby have some water to drink during morning.
Sun bath, if weather permits.

11:30 a. m. ***Dinner.*** Egg or meat, vegetables, toast, milk.
Nap. Undress baby for nap. When he wakens from nap give him a cup of milk.
Play. Offer some water during this time.

5 p. m.... Bath.

5:30 p. m.. ***Supper.*** Cereal or potato, fruit, toast, milk, cod-liver oil.

6 p. m.... Bed, lights out, windows adjusted for night, door shut.

If the baby takes a long nap in the morning undress him for his nap at a regular time (usually about 10:30 or 11 a. m.) and give him a cup of milk. Give him his dinner at 1 or 1:30.

Many babies continue to take two naps at this age. The time of the noon meal for such babies will depend upon whether the long nap is taken in the morning or in the afternoon.

In some families it is more convenient to give the baby his breakfast at 6:30 or 7 and his orange juice at 9 or 9:30.

The bath may be given at any hour of the day (except shortly after meals). It is best to have a regular time for it.

CHAPTER

11 Notes on Care of the Baby

SUPPORTING BACK AND HEAD

A YOUNG BABY'S BACK is not strong, and it needs to be supported all the time. When you pick him up put one hand under his back and the other under his head. When you put him over your shoulder tip his body forward so that there is no danger of his head's bobbing backward.

Until the baby is about 3 months old he will need support for his head all the time, either from the surface on which he is lying or from your hand or arm. His back will need support even after he is able to hold his head up. Put your hand under his back whenever you lift him, and do not put him down in such a way that he can slump over.

CRYING

When the baby cries it is a signal that something needs to be done. He may need to be turned over, to have his diaper changed, to be given a drink of water, or to have companionship.

Frequently the small amount of attention that goes with satisfying his wants will give him all the companionship he needs, and he will become peaceful. Sometimes, however, a baby will continue to cry. It is true that short periods of crying will not harm even a young baby and that crying is good exercise if it does not last too long. If the crying lasts for more than 15 minutes, however, after the baby has apparently been made comfortable, he probably needs further attention.

If it is near his feeding time the mother may pick him up, hold him, and sing to him a little until the time for feeding.

If it is not near feeding time, the baby may need a little extra food; if so, he should have it.

If the little baby frequently wakes and cries when it is not his feeding time, he is probably not getting enough food or the right kind of food, or he is not being fed at the right intervals, or something else is the matter. The doctor should be consulted.

It should be remembered that if a baby cries for no apparent reason he may be sick. If you suspect that he is sick, take his temperature. (See p. 117.)

CLEANLINESS

The mother should always wash her hands before she picks up the young baby, and the father or anyone else who touches the baby should do the same. Wash your hands thoroughly before preparing his food or feeding him.

As much of the time as possible when you are caring for the baby wear a dress that can be washed, and wash it often. At times when you do not wish to wear a washable dress wear a washable smock, apron, or other such garment that will cover your dress.

This will prevent the baby from coming in contact with a dress that cannot be kept clean easily.

Three or four squares of cotton cloth will be useful for wiping the baby's mouth during and after feedings, for laying under his head so that the sheet will not be soiled each time he spits up, and for putting over the mother's shoulder when she holds him up to allow him to belch. They may also be used as washcloths. These squares may be from 12 to 18 inches on each side and may be made of cheesecloth or any other soft, absorbent cotton material. If they are made of a thin material, several thicknesses should be used, bound or overcast at the edges. A diaper can be used for many of these purposes if it has been boiled. Unboiled diapers, however, should not be used near the baby's mouth.

VISITORS

Friends and relatives nearly always want to play with a baby. It is good for you and good for the baby too to have some company. But in order to see that the baby is protected from possible harm that may be done by even the best-intentioned persons, take the following precautions:

Watch out for coughs and colds. Don't let anyone who has a cough or cold go near the baby.

Don't let anyone lean over a baby's crib. A person leaning over the crib may spray the baby with germs.

Don't let anyone play with the baby when you know he is tired and needs rest.

Don't let anyone—not even your own mother—pick up the baby without first washing her hands.

Have a clean cloth handy to throw over the shoulder of anyone who wants to hold the baby so that the baby's mouth will not touch the person's clothing.

Don't let anyone kiss the baby on the lips.

Don't let any visitor give the baby candy or anything else to eat.

CHAPTER 12

Breast Feeding

THE MILK produced by a healthy mother contains almost everything a young baby needs for nourishment, in a form that the baby is able to digest easily.

Within recent years doctors have learned how to prepare cow's-milk mixtures that are good substitutes for breast milk. Nevertheless, whenever large groups of babies are compared, it is almost always found that on the whole the babies who have been breast-fed are healthier and have had fewer illnesses than those who have been fed cow's milk. One of the reasons for this is that breast feeding is so easy and simple that there is little opportunity for the mother to make mistakes that might make the baby's food disagree with him.

Not only are breast-fed babies more likely to be healthy than bottle-fed ones, but babies—and usually their mothers—enjoy breast feeding. Immediately after a baby is born he must become accustomed to living in a world where many new things happen to him. It is much easier for him to accept his new experiences if he is given the feeling of being safe and secure in the arms of a loving mother and if he gets also the pleasant sensation of sucking. When a mother nurses her baby, she gives him the loving attention he wants, and his dependence upon her brings joy and happiness into the feeling of responsibility she has for him.

Nursing the baby is of value to the mother in recovering from childbirth, for the baby's sucking at the mother's breast makes her uterus contract. This helps her body to return to its normal condition.

NURSING YOUR BABY

Most mothers can nurse their babies.

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 her baby. If she is convinced that nursing is best for both the baby and herself, she will plan to do whatever will make it possible for her to have an adequate supply of breast milk. Both before the baby is born and afterward, she will follow her doctor's recommendations as to what to eat and how to take care of her general health. (For hygiene during pregnancy see Prenatal Care, Children's Bureau Publication 4.) After the baby is born the mother will make every effort to produce enough milk to feed the baby well.

Importance of the Baby's Sucking

The sucking of a hungry baby—better than anything else—stimulates a mother's breasts to make milk.

After a baby is born both he and his mother are allowed to have a good rest—about 12 hours—and then he is placed at his mother's breast.

For the first few days a thick, yellowish fluid called colostrum comes from the mother's breasts. During this time, if the baby is allowed to nurse at regular intervals, his sucking stimulates the mother's breasts, and gradually the true milk, which is thin and bluish, comes into the breasts.

By the third or fourth day there is usually enough milk for the baby, although sometimes it takes a week or two for the milk to become well established. Before the breast milk is well established it is important that the baby be put at the breast at every feeding time, whether or not there seems to be much milk in the breasts, so that his sucking will stimulate the breasts to produce milk. Failure to have enough breast milk is often due to the fact that the baby has not been allowed to suck regularly at his mother's breasts.

If, after the first few days of life, the baby is not getting enough milk to satisfy his needs, he may be given a cow's-milk mixture after he has emptied the mother's breasts, but the cow's-milk mixture should not be given in place of a breast feeding.

During the first 3 or 4 weeks it is desirable that the mother not omit *any* nursings. Once the milk supply is well established, however, she can miss an occasional nursing and have a short "vacation" from her baby without losing her milk. If it is frequently necessary for her to be away from the baby at feeding time, she should empty her breast at the time of the missed nursing, either by hand or with a breast pump. If she does this the breast will be stimulated almost as though nursed by the baby. (For method of emptying the breast, see pp. 68–69.)

As the baby grows, the amount of milk in the mother's breast gradually increases. The quantity that the baby gets at a feeding depends largely on the energy, strength, and persistence with which he sucks. Emptying the breast completely helps more than anything else to produce milk.

If the supply of breast milk is plentiful only one breast need be given at a feeding, the other being given at the next feeding. If the milk supply is scanty both breasts may be given at each feeding; the breast given first at one nursing should be given second at the next nursing.

If the baby does not empty one breast at a nursing it should be emptied by hand or by a breast pump.

Hygiene of the Nursing Mother

Diet.

From the time of conception until weaning time the baby depends upon his mother's body for food. At first the amount of food the unborn baby needs is so small that it hardly affects the total amount eaten by the mother. As the baby grows in the uterus, however, he needs a larger and a larger amount of nourishment. After birth the amount the breast-fed baby needs from his mother keeps on increasing until she begins to wean him.

Because of the baby's increasing need for food, the mother's appetite usually increases during pregnancy and continues to increase during the time she nurses her baby. A good appetite makes it easier for the mother to eat enough to supply both her own needs and the baby's. It is essential for the baby's health, and also for the mother's, that she eat the right kind of food as well as enough food.

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Holding your baby while he feeds helps to build his sense of security.

During pregnancy she should eat the kinds of food that help build strong bones and muscles and good red blood in her baby, so that her own body will not be drained of substances necessary to her health. After the baby's birth she should eat more of these same kinds of foods, so as to produce an abundant supply of milk.

A good diet for a nursing mother includes the same foods that are in the diet of any other healthy adult. The amounts needed of some of them are greater than those needed by other people. In order to obtain the necessary amounts of these foods the nursing mother may need to have an additional small meal in the middle of the morning or of the afternoon or before bedtime.

Milk.—At least 1 quart of whole milk a day is needed—fresh, evaporated, or dried. It is better if the mother can take a quart and a pint a day. The milk can be used in soups, desserts, and creamed dishes as well as for drinking.

Cheese may be substituted for part of the milk occasionally—2 ounces of yellow cheese for a pint of milk. Cottage cheese may be used, but it does not supply as much bone- and tooth-building material as does yellow cheese.

Some skim milk may be used instead of whole milk, especially if the mother is overweight. If much skim milk is used it is more than ever necessary for the mother to take cod-liver oil or other fish-liver oil daily as a source of vitamin A.

Fruits and vegetables.—Five to seven servings a day of fruits or vegetables should be eaten. These can be divided as follows:

Cooked green leafy vegetable or cooked deep-yellow vegetable.
Raw-vegetable or green salad.
Potatoes.
Any other vegetable.
Orange, grapefruit, tomatoes, or berries or melons.
Any other fruit.

Fruits and vegetables may be fresh, canned, dried, or quick-frozen.

Lean meat; poultry; fish.—Two servings a day of meat or fish are desirable. All meats are good foods, but it is the lean parts that supply the building materials for muscles and blood. Liver, kidney, and sweetbreads are especially good. Some of the less commonly used and inexpensive meats, such as tripe, brains, and heart, may be used also. All kinds of seafood may be used in place of meat.

Eggs.—At least one egg daily is needed; two may be eaten if desired. Eggs may be used in cooked dishes, such as custard, as well as served plain.

Cereals and bread.—Two or more servings a day of cereal or bread are needed. Flours and cereals made by grinding the whole grain, or all of it but the roughest outer parts, are more nutritious than those in which only a part of the grain is used. The germ and the outer parts of the grain, which are discarded in the preparation of white flour and refined cereals, contain minerals and vitamins that the body needs and that are particularly important in the nursing mother's diet. Some of the most important of this vitamin and mineral value that is lost in milling has been restored in the enriched white flour, bread, and the enriched and restored cereals now on the market.

Butter and fortified margarine.—Butter may be used according to the mother's taste and pocketbook. Margarine that has been fortified by the addition of vitamin A has practically the same food value as butter, but other margarine does not.

A source of vitamin D.—A fish-liver oil, such as cod-liver oil or other prep-

aration with a great deal of vitamin D in it, is needed daily by the nursing mother. There are various preparations on the market that the doctor may recommend.

The amount of vitamin D needed by the nursing mother is considered to be 400 to 800 U. S. P. units daily. (For amounts of vitamin preparations that will supply 800 units, see p. 89.)

It is wise to choose a source of vitamin D that also contains vitamin A. If the mother is taking skim milk instead of whole milk, or margarine without vitamin A instead of butter, she should make sure that she is getting enough vitamin A by taking cod-liver oil or other fish-liver oil daily.

Water and other fluids.—Liberal use of fluid is desirable during the nursing period. It may be soup, fruit juice, or milk, as well as water. If the mother takes plenty of milk and fruit juice she may also drink tea and coffee.

A food containing iodine.—In most parts of the United States there is enough iodine in the water or the soil (and therefore in the vegetables grown in the soil) to supply all the iodine the nursing mother needs. In a few parts of the country, especially the Great Lakes region and parts of the Northwest, there is a deficiency of iodine in the water and the soil, so that it is necessary to use some special food containing iodine. Iodized salt is frequently used. Cod-liver oil contains some iodine, as do all seafoods. Ask your doctor whether you need extra iodine.

In addition to the foods named in the preceding section, a nursing mother may eat other foods to satisfy her appetite. These foods may include:

Bread and crackers made with unenriched flour.

Macaroni, white rice, and refined cereals that have not been restored or enriched.

Cake, pie, and other desserts.

Sugar, sirup, jam, jelly, marmalade, candy.

Fats, such as the fat of meat, cooking fats, fat meats such as bacon and salt pork, and salad oil.

If a nursing mother gets enough milk, fruit, vegetables, lean meat, poultry, fish, eggs, and whole-grain or enriched breads and cereals, she as a rule may eat as much of these sweet, fat, and starchy foods as she wishes. If she is gaining weight too rapidly, however, these are the foods that should be decreased. No decrease should be made in milk, fruit, vegetables, eggs, or meat without instructions from the doctor.

If very highly seasoned foods or foods with a very strong flavor, such as raw onions, are eaten by a nursing mother the milk will have a strong taste, and her baby may refuse to take it.

General Hygiene.

Sleep and rest.—At least 8 hours' sleep at night and 1 hour's rest during the day are desirable for every nursing mother, because if the mother is tired she may not produce enough milk for her baby. The 2 a. m. nursing can be stopped as soon as the baby will sleep through the night without it; this is usually before the end of the second month. There will then be only one nursing at night—at 10 p. m.—and the mother may have a long, unbroken sleep after this feeding.

Fresh air and exercise.—Moderate exercise in the open air and sunshine, especially walking, is desirable for the sake of good health. If a mother has much work to do in the house she will not have strength for much walking or other exercise outdoors. She can try, however, to spend some time each day resting in the open air and sunshine.

Fresh air indoors is needed for health; and, besides, sleeping and living rooms are pleasanter if kept well ventilated.

Work.—Overwork during the nursing period is undesirable for the mother. Often a mother who at first has plenty of milk for her baby finds when she goes back to her regular work that the amount is greatly reduced. Many mothers are not strong enough to undertake housework until at least 6 weeks after childbirth. By this time the milk flow has been well established.

Many mothers have to work hard during the nursing period, but a mother will have better general health if arrangements can be made that permit her to resume her duties gradually. Sometimes a friend or relative will take over the household responsibilities until the mother is strong. When this is not possible it can sometimes be arranged for a housekeeper to assist the family. The father should do all he can to help the nursing mother get the rest she needs.

When the mother first begins to work again she can avoid fatigue by taking short rests between tasks. Lying down for 5 minutes several times a day may enable her to do more work than she would otherwise be able to do safely. To get more rest it is well for her to nurse her baby in a half-reclining or other comfortable position. This will give her 15 or 20 minutes' relaxation every few hours.

Contentment.—The mother who can lead an even, regular life without emotional upsets will nurse her baby the more successfully on that account.

Fright, grief, anger, worry, or any great excitement or lasting nervous strain can make a mother "lose her milk" entirely.

Recreation.—Some form of recreation is good for everyone. Recreation and outdoor life help to keep the mother happy and contented and help also to maintain the supply of breast milk.

Regulation of the bowels.—Constipation during the period soon after childbirth is very common because the mother's body does not return to normal strength for several weeks, and sometimes not for several months.

Every effort should be made to regulate the bowels by means of foods. Leafy vegetables are helpful, and also fruits, particularly apples, rhubarb, figs, and prunes. Eating whole-grain bread and cereals will frequently correct constipation. A glass of water taken regularly the first thing in the morning may help.

As the mother becomes strong, daily walks or other exercise may assist in making the action of the bowels regular.

It is well to make a habit of going to the toilet regularly once a day whether or not there is a desire to have a stool.

Laxative drugs should not be used except upon the advice of a doctor. Some of these drugs pass into the breast milk and affect the baby.

If the mother does become constipated an enema is a safe way of emptying the bowels.

Bathing.—Many women perspire more freely during the nursing period than at other times. Sometimes this occurs only during the time the milk flow is becoming established, but sometimes it persists during the entire nursing period. The extra perspiration and the fact that a breast full of milk occasionally leaks milk make it necessary for the nursing mother to take extra pains with her toilet to prevent the odors of perspiration and stale milk.

Alcohol and tobacco.—The question is often asked, "Should a woman who has been used to smoking give it up during the months when she nurses her baby?" or, "Should a woman who has been used to taking an occasional alcoholic drink refrain from taking even that during the period she nurses her baby?" At present there is no evidence that if the mother smokes moderately or takes an occasional drink of an alcoholic

beverage any harm will be done her baby; nor can it be said definitely that these things do not do harm.

Care of the Mother's Breasts.

Often the success of breast feeding depends upon the care given the breasts.

Before the baby is born.—The mother can prepare to nurse the baby by seeing to it that the breasts themselves are in the best possible condition. By wearing loose clothing she can allow them plenty of room to develop; a brassiere that lifts and supports the breasts is usually comfortable as well as healthful. The doctor will examine the breasts and the nipples to see whether special treatment is necessary, and the mother should notice if anything seems wrong with her breasts and report it to her doctor.

After the baby is born.—Before nursing the baby the mother should wash her hands with soap and water. She should then wash her nipple and breast with soap and water, using a clean cloth or a piece of absorbent cotton. The soap should be carefully rinsed off. After the nursing the nipple and breast should be washed again. Between nursings the breasts should be covered with a clean cloth held in place by the brassiere. This cloth will soak up any milk that leaks from the breast, and it can be changed readily.

When the milk first comes in, the breasts may become painful. Usually this condition rights itself without difficulty as soon as the regular emptying of the breasts is established. Unnecessary handling of the breasts should be avoided. An uplift type of brassiere that supports the breasts is needed. If the breasts become painful and tense ("caked"), an ice bag may make them more comfortable. A baby should never be weaned because of caked breasts, as it is only a temporary condition.

The baby's first efforts to nurse often make the nipples tender, but this should never discourage a mother from nursing her baby, as this condition lasts only a short time. The nipples usually become less sensitive in a few days or a week.

Great care must be taken to keep the nipples free from infection, for the tiny cracks of a sore nipple may develop into breast abscess.

A doctor should be consulted if the nipples are sore or cracked or the breasts are abscessed or if anything else interferes with satisfactory nursing.

Never allow the baby's mouth to come in direct contact with a cracked nipple. Let him draw the milk from the breast through a nipple shield. The nipple shield should be cleaned thoroughly after nursing and boiled before being used again. A lead nipple shield should not be used, as this is dangerous. If the baby cannot obtain the milk when a shield is used, the mother should express the milk from her breast by hand or with some type of breast pump and feed it to the baby from a nursing bottle.

During the first week or so the nursing of the baby makes the uterus contract so that frequently as the mother nurses her baby she feels pains in the lower abdomen. This is nothing to cause alarm; the pain disappears in a few weeks when the uterus has shrunk to normal size.

EMPTYING THE BREASTS

Before expressing the milk, whether by hand or by breast pump, scrub the hands and nails with soap and warm water for a full minute, using a brush. Wash the breast and nipple with a clean cloth and soap and water, being careful to rinse off all the soap. Dry the hands on a clean towel.

If the milk is to be given to the baby at once have ready a sterilized (boiled) glass to receive it (unless a breast pump

that has a glass cup is used); also a sterilized nursing bottle and nipple. If your glass has no lip you should have ready a sterilized funnel also to use in pouring the milk into the bottle.

If the milk is to be given to the baby later, rather than immediately after it is expressed, it should be brought to a boil and then should be kept on ice in a sterilized bottle, covered with a sterilized bottle top.

Hand Expression

The doctor or the nurse will show you how to empty the breasts by hand. One way to do it is as follows:

Place the balls of the thumb and forefinger on opposite sides of the breast, about 1½ inches from the nipple. This is usually at the edge of the darker-colored part. Press deeply and firmly into the breast until the resistance of the ribs is felt. Then bring the thumb and fingers tightly together well behind the base of the nipple. When the fingers and thumb are pressed deeply into the breast keep them there and repeat the "together" motion 60 to 100 times per minute. Speed is important and is attained after some practice. The fingers should not slip forward on the breast or the skin may be irritated. It is not necessary to touch the nipple. Stripping the breasts in this way should cause no discomfort.

Expression by Breast Pump

A breast pump is a convenience to a mother who must empty her breasts frequently. The simplest kind of pump consists of a glass cup and a rubber bulb. These pumps can be bought in most drug stores; they cost less than a dollar.

Before the breast pump is used, it should be washed with soap and water and sterilized by boiling 5 minutes. When washing the rubber bulb take care to clean all the grooves in the part that joins the glass.

BREAST-MILK AGENCIES

Some newborn babies thrive so much better on breast milk than they do on cow's milk that it is worth trying to obtain breast milk for them if the mother is unable to produce it.

Breast milk, like cow's milk, should be bought only if it has been collected and handled under proper conditions. In some large cities there are hospitals or breast-milk agencies that sell breast milk produced by healthy women and collected and handled properly. Breast milk that is bought should be boiled.

If it is necessary to obtain breast milk for a baby from some other source than the baby's own mother, and there is no breast-milk agency near by, it may occasionally be helpful to obtain milk from another woman who has more milk than she needs for her own baby. If this is done the health of the woman who gives the milk and that of her baby should be carefully checked and supervised by a doctor. The milk should be expressed by hand or by a breast pump, and it should be boiled before it is fed to the baby. Such arrangements are frequently unsatisfactory, and the doctor will usually advise cow's-milk feeding.

BREAST MILK AND COW'S MILK

If Breast Milk Is Insufficient

If the mother's supply of breast milk is not enough for her baby's needs it will be necessary to give the baby a cow's-milk mixture in addition to the breast milk. (Signs that the baby is not getting enough breast milk are described on p. 94.) The doctor should be consulted as to whether additional feeding is necessary.

When a cow's-milk mixture must be given in addition to breast milk it is usually most satisfactory to give a small bottle feeding immediately after the breast feeding. This may be done at as many feedings a day as the doctor recommends.

The bottle should be given after the breast—never before—as the sucking of a hungry baby stimulates the production of breast milk.

When a bottle feeding is to follow a breast feeding, prepare the bottle of milk mixture and have it at hand, kept warm, ready to give the baby when he has emptied the breast. In this way the meal will be more satisfying to the baby than if he has to wait after nursing before he can have the bottle.

The milk mixture to be used depends upon the baby's age, weight, and special needs. Ask your doctor what mixture to use. The suggestions on page 83 may be helpful.

If the family has a baby scale the mother can find out how much breast milk the baby is getting (see p. 94), and the doctor will tell her how much cow's milk he will need in addition.

If the family does not have a baby scale the doctor may advise the mother to prepare the amount that would be needed if the baby were entirely bottle-fed and to depend upon the baby's appetite to take as much as he needs.

If the baby leaves about the same amount of milk mixture every day, the mother can save milk by preparing only as much milk mixture as he will take.

If Breast Milk Is Plentiful

When the mother has an abundant supply of milk she may, if she wishes, omit one breast feeding a day and substitute a bottle feeding. This gives her an opportunity for rest or for recreation.

Even though the mother's supply of breast milk is abundant it is not wise to substitute more than one bottle feeding for a breast feeding in 24 hours until the time to begin weaning, because the amount of mother's milk is likely to decrease unless each breast is emptied completely at least twice every 24 hours.

An occasional bottle feeding accustoms a breast-fed baby to the bottle and thus makes weaning easier.

WEANING

Because breast feeding is so good for the baby a mother should plan to nurse her baby at least 7 or 8 months unless there is a very good reason not to.

There are only a few good reasons for permanently weaning a baby under 6 months. Among them are the following conditions in the mother: Another pregnancy; any chronic illness of a weakening nature, such as cancer, chronic Bright's disease, chronic heart disease, or severe anemia; severe prolonged infectious diseases, such as typhoid fever and lung tuberculosis; diseases in which the mother may not be responsible for her actions, such as epilepsy or dementia.

A mother with active tuberculosis of the lungs is almost sure to give the disease to her baby if she is near him, and therefore she should never nurse the baby, not even take care of him.

Sometimes the mother's return to employment may make early weaning necessary. Sometimes careful planning by both father and mother will make it possible for the mother to remain at home and nurse their baby, especially when they realize what a good start in life breast feeding will give the baby.

It may be necessary for the mother temporarily to discontinue feeding the baby from the breast if mother and baby have to be separated for a short time, or

if the mother contracts a disease which the baby may catch, or if the mother herself becomes extremely ill. If the mother is not too ill it is wise to make every effort to keep up the supply of breast milk by emptying the breasts completely by hand or by breast pump at regular intervals. During the mother's illness, while the baby is not getting breast milk, regular feedings of cow's-milk mixture must be given, prepared according to a formula given by the doctor. Breast feeding should be resumed at the first possible moment.

Some of the reasons often given for weaning are really not sufficient to make weaning necessary. Some babies are weaned unnecessarily because the mother discovers that her breast milk looks blue and thinks it is "too thin." Breast milk is always bluer and thinner than cow's milk. Its quality cannot be determined by looking at a few drops, nor can it be satisfactorily told even by a laboratory examination. Difficulties that arise during the breast-feeding period, such as colic, spitting up, increase in number of stools, and green stools, are much more likely to be caused by shortage of milk than by poor quality. A baby with these symptoms should be seen by a doctor. Even if the supply of breast milk decreases to the point where the baby is not gaining weight, weaning may not be necessary. Before weaning is considered, every effort should be made to increase the supply of breast milk by attention to the mother's diet and general hygiene. When the amount of breast milk is insufficient the baby may be given a cow's-milk mixture after each breast feeding.

Menstruation may return during the nursing period. It is not a reason for weaning the baby.

How To Wean the Baby

Weaning should be made as easy as possible for the baby. Before the baby is weaned consult the doctor with regard to the cow's-milk mixture to be used. A boiled mixture of cow's milk, water, and sugar or corn sirup usually is satisfactory. (See pp. 72–86.) This plan can be used for most babies:

For a week give one feeding of cow's milk a day and three breast feedings. Then for 4 or 5 days give two feedings of cow's milk a day and two breast feedings. For the next 4 or 5 days give three feedings of cow's milk a day and one breast feeding. After that (between 2 and 3 weeks after the beginning of weaning) the baby gets no breast feedings but gets four feedings of cow's milk a day, as well as the additional foods mentioned on pages 87–93.

Rapid weaning may occasionally be necessary. Additional substitutions of bottle feedings for breast feedings may have to be made at shorter intervals. The rapid method of weaning should not be used except for some very urgent reason. Sudden weaning is frequently very difficult, especially with young babies, and of course should be done only in an emergency. It is also painful for the mother.

Many babies at 8 or 9 months can learn at once to drink from a cup and thus will not need to learn to give up the bottle a few months later.

When a bottle feeding is to be given a breast-fed baby the milk mixture can be selected as described on page 83. The feedings can be prepared according to the suggestions on page 81.

CHAPTER 13

Cow's-Milk Feeding

DURING the first 6 months of life no baby should be taken off the breast unless there is very good reason. (See p. 70.) After the baby is 6 months old cow's-milk feeding may be begun, but it is best that a baby should be at least partly breast-fed until he is 7 or 8 months old.

The baby who is old enough to be weaned, or the younger baby who cannot be breast-fed, is usually given a boiled cow's-milk mixture.[1] Boiling the milk makes it safe and also more digestible. Even boiled milk, however, is not readily digested by all babies, and it is therefore often necessary to add water. Adding water to the milk, of course, makes it weaker, and sugar is added in order that the baby may be nourished adequately.

The cow's milk used for babies may be fresh, evaporated, or dried, and there are several varieties of sugar that may be used. Your doctor will help you decide which milk and which sugar to use for your baby's milk mixture.

THE CHOICE OF MILK

Fresh Milk

Fresh milk should be obtained from a dependable source. (For information regarding a good fresh-milk supply, see pp. 84–86.) It should be kept cool and clean. If you cannot get fresh milk from a dependable source or do not have a cool place in which to keep the milk, it is better not to use fresh milk for baby feeding. Fresh milk should be pasteurized before it is sold.

All fresh milk should be boiled before it is given to the baby.

Evaporated Milk

Evaporated milk is whole milk from which some of the water has been removed. As put into the can it has less than half the original bulk of the fresh milk from which it was made. It is sterilized in the can, and no sugar is added. All brands of evaporated milk now sold in the United States meet the Government standards and are suitable for infant feeding.

Evaporated milk will keep without refrigeration until the can is opened. When the can has been opened the milk must be kept covered and in a cold place, just like fresh milk. It may be kept in the can.

When evaporated milk is diluted with an equal amount of boiled cooled water it has practically the same food value as fresh whole milk that has been boiled. It may be used in the same proportions as fresh whole milk in preparing the milk mixture for the baby. It is not necessary to boil a milk mixture made with evaporated milk and boiled water as the milk has already been heated and sterilized. Evaporated milk is a safe and inexpensive milk for babies.

[1] Goat's milk may be used for babies in the same way as cow's milk, provided the same precautions are taken in the production and care of the milk and the preparation of the feeding.

Evaporated milk must not be confused with condensed milk, which contains a large amount of sugar and therefore is not a suitable food for babies.

Dried Milk

Dried milk, or milk powder, is manufactured by removing practically all the water from fluid milk; no sugar is added. Dried milk may be made from whole milk, skimmed milk, or partly skimmed milk, and from sweet or sour milk. Be sure to read the label before buying dried milk so as to get the kind you want.

Canned dried milk will keep without refrigeration until the can is opened. After the can is opened and the powder has been exposed to the air the can must be kept tightly covered and cold. Damp or soiled utensils should never be used to dip out the powder, as this may contaminate what is left in the can.

Since a can of dried milk may not be used up for some time, dried milk should not be used unless the opened can of powder can be kept cold.

If dried whole sweet milk is mixed with water according to the directions on the can (usually 4 level tablespoonfuls of milk powder to 8 ounces of water), it may be used in the same way as fresh whole milk in preparing the mixture. The mixture should be boiled.

Other types of dried milk may be used according to the doctor's directions.

Special Forms of Milk

Various kinds of evaporated, fresh, and dried milk are on the market. Whatever kind of milk is used, remember that all milk except evaporated milk must be boiled before being given to the baby.

Lactic-Acid Milk.

Lactic-acid milk is usually made for babies by adding lactic acid to boiled milk, although it may be made by adding a culture to the milk. The boiled milk must be cold before the lactic acid is added. Otherwise the milk is likely to form curds that will not pass through the holes in the nipple.

Vitamin-D Milk.

Vitamin-D milk is milk—fresh, evaporated, or dried—that has had its vitamin-D value increased by some special process. The amount of vitamin D that these fortified milks contain varies but most of them have a vitamin-D value of 400 international units per quart of fresh milk or of evaporated or dried milk after sufficient water has been added to make a quart. (For vitamin D see pp. 88–89.)

Patent Milks for Infants.

There are on the market a number of proprietary, or patent, milk mixtures. They should be used only under the direction of a doctor.

IMPORTANCE OF BOILING

It is of utmost importance to any baby who must be bottle-fed that the milk be boiled to make it safe. Boiling milk kills any disease germs that the milk may contain. 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 tough. 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.

When milk has been boiled for 5 minutes it is more digestible. The curds

that are formed in a baby's stomach from boiled milk are small and soft and are more like the curds from breast milk.

Because boiling milk makes it both safe and more digestible, many of the digestive disturbances and other difficulties of bottle feeding do not appear when only boiled milk is given to the baby. It is perhaps the one rule that can be laid down for all bottle-fed babies.

The milk must be boiled as part of the home preparation of the baby's milk mixture unless evaporated milk is used, which has been sterilized in the process of manufacture. The curds formed in the baby's stomach by evaporated milk are even softer than those formed by boiled fresh milk.

Constipation does not result from the use of boiled milk except in very rare cases. Even if it does develop, it can usually be corrected by making other changes in the food according to the doctor's directions and it is unimportant in comparison with the serious disorders that may follow the use of raw milk (see pp. 100–101).

THE CHOICE OF SUGAR

Your doctor will decide what kind of sugar is best for your baby's milk mixture. The kinds commonly used are: Corn sirup, granulated sugar, a mixture of malt sugar and dextrin, milk sugar, and even honey. There are also proprietary or patent sugars for infant feeding.

Either granulated sugar or corn sirup is satisfactory for most babies, and both are inexpensive. The dark kind of corn sirup is usually preferable to the light because it is likely to contain more minerals, especially iron. Sirup should be kept covered and cool.

Proprietary or patent sugars for infants.—Many infant foods on the market contain no milk but are intended to be added to the milk; they consist largely of sugars. This type of patent food should be added to milk in place of other sugar only as directed by the doctor.

PLANNING A FORMULA

The milk mixture that is best for your baby should be planned by the doctor. The amount and kind of milk and sugar and the amount of water that should be used in the mixture vary according to the individual needs of the baby. Even though the doctor has planned a formula for the baby, it may be necessary for him to change that formula, perhaps more than once, before a mixture suited to the baby's individual needs is found. After the right mixture has been found it will need to be changed from time to time.

Babies, even at the same age, vary a good deal in the amount of food they require. For example, very active babies need more food than babies that are less active. After observing a great many babies, doctors have found that, on the average, they can predict about how much food a baby will need at different ages.

Quantity of Milk

On his first day of life a baby is usually given no milk—only water, sweetened or unsweetened.

On the second day of life, if it is not possible to feed the baby at his mother's breast, cow's milk is begun (with water and sugar added as described on p. 75); that is, 1 ounce of milk for each pound of the baby's weight. A 7-pound baby at this age usually needs 7 ounces of milk in 24 hours.

From the fourth to the seventh day a baby needs as a rule 1¼ to 1½ ounces

of milk daily for each pound of his weight.

During the second, third, and fourth weeks the baby usually needs not less than 1½ ounces of milk daily for each pound of his weight, and he may need more.

From the beginning of the second month to the end of the ninth month most babies need 1½ to 2 ounces of milk daily for each pound of their weight.

When the baby is 9 months old he will be taking a variety of other foods, so that it is seldom necessary to increase the amount of milk further.

After the baby is about 9 months old, whether he has been breast-fed or bottle-fed, he may be given daily about 32 ounces (1 quart) of cow's milk (boiled) unmixed with water or sugar. Some of this milk may be used in cooking the baby's cereal or may be poured over it.

Quantity of Sugar

During the first week of life a 7-pound baby, as a rule, will need 1 tablespoonful of corn sirup or granulated sugar added to the whole day's allowance of milk mixture. During the first month this may be gradually increased to 2 tablespoonfuls, during the second month to 2½ tablespoonfuls, and during the third or fourth month to 3 tablespoonfuls. Most babies will not require more than 3 tablespoonfuls a day of sirup or granulated sugar at any time.

At the beginning of the seventh month begin to decrease this amount of sugar gradually, until at the beginning of the ninth month no sugar is added to the milk.

One level tablespoonful of corn sirup or granulated sugar weighs the same as 1½ tablespoonfuls of milk sugar or of a mixture of malt sugar and dextrin; therefore if either of these is used, one and one-half times as many tablespoonfuls will be needed as of corn sirup or granulated sugar.

Quantity of Water

As a rule during the first week of life a baby's milk is diluted about half and half with water; gradually less of the water needed is put into the milk mixture, more being given as drinking water. Some doctors prefer that the baby get all the water that he needs between feedings rather than in the milk mixture.

Throughout the first year of life a baby needs 2 to 2½ ounces of fluid daily for each pound of his body weight. If he does not obtain this much fluid in his milk mixture and fruit juices, the rest may be supplied as drinking water.

In hot weather a baby will need more fluid than in cold weather.

NUMBER OF FEEDINGS

Most babies do well if fed every 4 hours. The very young baby fed every 4 hours will have six feedings in 24 hours, usually at 6 a. m., 10 a. m., 2 p. m., 6 p .m., 10 p. m., and 2 a. m.

As soon as the baby will sleep through the 2 a. m. feeding—usually by the second month, but sometimes earlier—he will need only five feedings in 24 hours. Later, as a rule some time after he is 4 or 5 months old, he will also sleep through the 10 p. m. feeding. Four feedings in 24 hours will then be sufficient.

Some babies need to be fed at shorter intervals than every 4 hours. The baby fed every 3 hours will need eight feedings in 24 hours, or seven feedings if during the night the intervals can be longer than 3 hours.

The exact hours at which the feedings are to be given can be other than those suggested, so long as an appropriate interval is allowed between feedings.

Feedings should be given according to a regular schedule, arranged to meet the baby's needs and the parents' convenience. (See The Baby's Day, pp. 57–59.)

AMOUNT OF MILK MIXTURE

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 4-hour intervals receives larger feedings than the one who is fed at shorter intervals. But even babies fed at the same intervals vary considerably with regard to the amount of milk mixture that they will take at a feeding. For newborn babies it is well to offer a small amount at a feeding—say 2 to 2½ ounces—and to increase the amounts as the baby wants more.

EQUIPMENT NEEDED

If a baby is to be weaned before he is old enough to drink from a cup, or if he must be fed a milk mixture from birth, it is a great help if the mother is able to have a set of utensils especially for preparing the milk mixture and to keep these utensils together and not use them for anything else. To do this will cost a few dollars extra, but if the family is able to afford the cost the extra equipment will help to make certain that the baby's milk mixture is correctly made and clean *every* day. Besides, the mother will find that much time and trouble will be saved.

The utensils needed include (1) those needed for feeding, (2) those needed for preparation, and (3) those needed for keeping the equipment in good condition.

For Feeding

Nursing Bottles.

Number and size.—When the baby's food is prepared only once every 24 hours, the mother will need as many nursing bottles as there are feedings in that time, and it may be convenient for her to have at least two extra bottles.

The ordinary nursing bottle holds 8 ounces. A smaller-size bottle, holding 4 ounces, may be convenient for giving water and orange juice and for giving small amounts of milk mixture to a young baby, although the larger bottle may be used instead. For water and orange juice, two of the smaller bottles are usually enough.

Material.—Nursing bottles made of heat-resistant glass do not break easily, but they cost more than bottles made of ordinary glass. If a baby is to be bottle-fed for a long time, it is worth while to buy the more expensive bottles.

Shape.—A kind of bottle should be bought that can be cleaned thoroughly with a bottle brush; there should be no corners that are hard to clean. The neck of the bottle should gradually slope into the body, and the bottom should slope into the side without a sharp corner.

Bottle Caps.

When a baby's milk mixture has been put into a nursing bottle the bottle must be kept tightly covered until it is used.

A bottle cap covers the lip of the nursing bottle and therefore protects the milk mixture much more satisfactorily than a cork.

Wax paper held in place with an elastic band may be used as a cover. It is somewhat troublesome to put on, and a bottle covered with wax paper must be

kept upright to keep the milk from leaking out and from touching the wax paper, which is not sterile. Wax paper must never be used twice.

Nipples.

If possible, have enough nipples for a day's use, so that they need be boiled only once a day. A day's supply of nipples includes one for each feeding, one for each drink of water, and one for each drink of orange juice. When buying nipples select the kind that can easily be turned inside out to be cleaned.

Before using a new nipple find out whether the holes are about the right size. To do this put the nipple (before it is sterilized) on a nursing bottle of water (one that is not to be given to the baby), turn it upside down, and squeeze the nipple with the fingers somewhat as the baby will suck upon it. When the nipple is squeezed in this way several fine streams should come from it.

If the holes in the nipple are too small, the baby may get tired before he gets enough milk; if they are too large, he will get all his milk before he has sucked as long as he wants to. A baby sometimes starts thumb or finger sucking because he still wants to suck after he has had all his milk. (See p. 55.)

If the holes in a nipple seem to be too small heat an ordinary sewing needle to a red-hot heat, holding it by means of a cork, and enlarge the holes by poking the red-hot needle through them.

Several small holes in a nipple are better than one large one.

For Preparing the Milk Mixture

A saucepan in which to mix and boil the milk mixture is usually needed. It is helpful if this saucepan has a lip, to make pouring easy.

A funnel is usually needed in pouring the milk mixture from the saucepan into the nursing bottles. If the saucepan has a good lip a funnel may not be necessary.

Wash your hands before preparing your baby's food.

A large measuring cup marked to measure ounces is convenient for measuring milk and water, but a nursing bottle marked in ounces is also satisfactory.

A tablespoon and a teaspoon are needed for measuring sugar. Measuring spoons, which can be bought in sets of four fastened together on a ring, are inexpensive and are much more accurate than ordinary household spoons.

A knife should be kept for leveling spoonfuls of sugar or dried milk.

A sirup server that has a spring top to prevent dripping may be convenient.

Strainer.—A scum is likely to form on a fresh-milk mixture when it is boiled, and therefore a strainer is needed. If a fine-mesh strainer is bought it may be used also for straining orange juice.

Can opener.—If evaporated milk is used a can opener is needed. A can opener that makes a large three-cornered hole may be convenient. If an ice pick is used, or other opener that makes a small hole, two holes are necessary.

Egg beater.—If dried milk is used an egg beater is needed.

For Caring for Equipment

A brush with a long handle and with long bristles, which will thoroughly clean the inside of the nursing bottles, is needed.

A kettle with a cover is needed for sterilizing the bottles, bottle caps, nipples, and other utensils used in preparing the milk mixture. Baby-bottle sterilizers, which consist of a kettle and a bottle rack, can be bought.

A wire rack for holding bottles when they are being boiled and filled is a convenience. This rack should fit inside the large kettle used for sterilizing as it does in commercial sterilizers. A rack can be made at home by bending a piece of heavy wire with a pair of pliers.

A long-handled spoon is needed for removing utensils from the sterilizing kettle and for stirring the milk mixture.

Jars.—Two small wide-mouthed covered jars are needed, one for clean nipples, the other for used ones. The covers should be of glass or of a metal that does not rust. There should not be a paper top inside the cover.

STERILIZING EQUIPMENT

All the utensils that come in contact with the milk mixture after it has been boiled must be sterilized—boiled or steamed for 5 minutes; those used before the mixture is boiled need only be washed thoroughly with hot water and soap.

After the baby has finished a feeding, rinse the nursing bottle and the nipple immediately with cold water. Leave the bottle standing full of water. Put the nipple into the jar for used nipples.

Before the mother starts to prepare the milk mixture she should wash and sterilize all the bottles and other necessary utensils in the following way:

Scrub the inside of each bottle with the bottle brush, using plenty of soap and hot water. Rinse each bottle carefully.

Place each bottle upside down in the wire bottle rack, which fits inside the large covered kettle. If a rack is not used, lay the bottles on their sides in the kettle.

Wash the bottle caps and the nipples with hot water and soap, turning each nipple inside out and seeing that all the soap is removed.

Then put the bottle caps and nipples into the large kettle along with the bottles.

Put into the kettle also the funnel, strainer, long-handled spoon, jar for clean nipples and its cover, and any other utensils that will come into contact with the milk after it is boiled or with the sterilized nipples. (If there is not room for all these things in the kettle at one time, sterilize the bottles first. Then take them out of the kettle and let them stand on the table while the other equipment is being sterilized.)

After the bottles and the other utensils are in the kettle and are covered with water, put the kettle on the stove. Boil the water actively for 5 minutes.

If you have a kettle with a tight cover and also a bottle rack, the bottles can be steamed instead of boiled. An inch or two of actively boiling water in the bottom will be sufficient to fill the entire kettle with steam, which will sterilize the utensils. If you do not have a kettle with a tight cover and also a bottle

rack, it will be necessary to cover the articles with water and boil them.

It takes much longer, of course, and uses more fuel, to heat to boiling a large kettle full of water than it does to form steam from an inch of water in the bottom of a covered kettle. The saving in fuel will help to pay for the cost of the tightly covered kettle and the bottle rack.

After the water has boiled for 5 minutes, the utensils are ready for use in preparing the milk mixture.

If the water in the kettle covers the utensils, pour some of it off so that the kettle and its contents will cool quickly, and you can lift out the sterilized articles without letting your fingers touch the sterile water.

Let the kettle cool until the articles inside can be lifted out without burning the fingers.

Take great care in taking the articles out of the kettle, so as not to let anything that is to come into contact with either the milk mixture or the nipples after they have been boiled touch anything that has not been sterilized. The outside of the bottles and of the jar for sterilized nipples may be touched with the fingers, but not the lip nor the inside.

Lift out the rack of bottles and let the bottles drain.

Lift out the jar for sterilized nipples. Using the long-handled spoon (touch only the handle), lift first the nipples and then the bottle caps from the kettle and put both into the jar. (Some bottle racks have a special place to hold the nipple jar. With such a rack the nipples and bottle caps can be steamed in the jar, which will be lifted out with the bottle rack.)

The remaining utensils, such as the strainer and funnel, are less likely to get germs on them if they are left in the kettle until used.

If, after the nipples and bottle caps are taken out, the long-handled spoon is put back, with its handle propped against the side, the lower part of the spoon will still be sterile so that you can use the spoon in picking up the other utensils.

Never put your fingers, nor anything not sterilized, into the water to pick up any of the sterilized articles.

PREPARING A DAY'S FEEDINGS

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

Put a clock where you can see it while preparing the milk mixture.

Always wash your hands before beginning to prepare the milk mixture.

Using Fresh Milk

Have ready the saucepan, measuring spoon, measuring cup, sugar or sirup, and knife (if sugar is used); and also the kettle containing the nursing bottles, bottle caps, funnel, strainer, and long-handled spoon, all of which have just been boiled. (See p. 78.)

Take the bottle of milk out of the refrigerator.

Unless the bottle has a cap *that protects the lip,* clean the top of the milk bottle by holding it under fast-running water and wiping it with a fresh paper towel.

Shake the bottle to mix the cream well with the rest of the milk.

Measure into the saucepan the required amount of milk and of water, using a measuring cup or a nursing bottle marked to measure ounces.

Measure into the saucepan the required amount of sirup or sugar, using the measuring spoon. If sugar is used, level each spoonful with a knife.

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Stir the mixture to dissolve the sugar.

Place the saucepan on the stove and let the mixture boil (bubble) actively for 5 minutes by the clock, stirring it constantly.

Take the saucepan off the stove.

Put into each nursing bottle the milk mixture for one feeding, using the sterilized funnel and strainer.

If heat-resistant nursing bottles are used strain the milk mixture immediately into the sterilized bottles.

If nursing bottles of ordinary glass are used, cool the mixture by placing the saucepan in a pan of cold water. Stir the mixture while it cools, using the long-handled spoon that was used for stirring it during the boiling. When the mixture is cool, strain it into the sterilized bottles, using the sterilized funnel and strainer.

Cover each bottle with a sterilized bottle cap.

Put the bottles into the refrigerator.

Using Dried Milk

Have ready the can of dried milk and the saucepan, long-handled spoon, measuring spoon, measuring cup, sugar or sirup, knife, and egg beater; and also the kettle containing the nursing bottles, bottle caps, funnel, and strainer, which have just been boiled. (See pp. 78–79.)

Measure the required amount of cold water and pour it into the saucepan.

Measure the required amount of dried milk, using a *dry* measuring spoon and leveling each spoonful with a knife. Put the milk on top of the water.

Beat with the egg beater until the milk is well mixed with the water.

Measure into the saucepan the required amount of sirup or sugar, using the measuring spoon. If sugar is used level each spoonful with the knife.

Stir the mixture with the long-handled spoon to dissolve the sugar.

Place the saucepan on the stove and let the mixture boil (bubble) actively for 5 minutes by the clock, stirring it constantly.

Take the saucepan off the stove.

Put into each nursing bottle the milk mixture for one feeding, using the sterilized funnel and strainer.

If heat-resistant nursing bottles are used strain the hot milk mixture into them.

If nursing bottles of ordinary glass are used cool the mixture by placing the saucepan in a pan of cold water. Stir the mixture while it cools, using the long-handled spoon that was used for stirring it during the boiling.

Cover each bottle with a sterilized bottle cap.

Put the bottles into the refrigerator.

Using Evaporated Milk

Have ready the can of evaporated milk and the saucepan, measuring cup, measuring spoon, sugar or sirup, and knife (if sugar is used); and also the kettle containing the nursing bottles, bottle caps, funnel, strainer, can opener or ice pick, and long-handled spoon, all of which have just been boiled. (See pp. 78–79.)

Measure the required amount of water, using the measuring cup or a nursing bottle marked in ounces, and pour it into the saucepan.

Measure the required amount of sugar or sirup and add it to the water in the saucepan, using the measuring spoon. If sugar is used, level off each spoonful with the knife.

Stir this mixture to dissolve the sugar or sirup.

Place the saucepan on the stove and allow the mixture to boil (bubble) ac-

tively for 5 minutes by the clock, stirring it constantly.

Take the saucepan off the stove.

Clean the top of the can of evaporated milk by pouring boiling water over it or holding it under fast-running hot water. Wipe it off with a fresh paper towel.

Make one large hole in the can with the sterilized can opener, or two small holes with the sterilized ice pick.

Measure the required amount of evaporated milk, using a sterilized nursing bottle, and pour it into the saucepan. Stir the mixture, using the long-handled spoon that was used to stir the sugar and water during the boiling.

Pour the mixture immediately into the sterilized nursing bottles.

Cover each bottle with a sterilized bottle cap.

Put the bottles into the refrigerator.

If you wish, the milk, sugar, and water may be boiled together just as is fresh cow's-milk mixture.

Although a can of evaporated milk does not need to be kept cold while it remains unopened, it needs to be kept cold from the time it is opened until it is used. The milk left in the can after a feeding has been prepared can be kept for the next feeding if it is kept in a cold place. The can should be covered so that no dirt can get into the milk. A small bowl or a glass turned over may be used to cover the can, or a piece of paper towel may be fastened over it with an elastic band.

PREPARING A SINGLE FEEDING

It is sometimes necessary to prepare single feedings—as when a breast-fed baby is given an occasional bottle and also at the beginning of weaning.

Also, when there is no way to keep milk cold, it is better not to make up a whole day's feeding at a time, but to prepare each feeding as the baby needs it. In this case it is usually best to use evaporated milk.

When single feedings are to be prepared it is necessary to divide the day's allowance of milk, water, and sugar or sirup by the number of feedings in 24 hours so as to know just how much of each is needed for a single feeding. The doctor will be glad to make the calculation for the mother. (For sample formulas for single feedings for babies of different ages, see p. 83.)

Preparation for a single feeding may be done in various ways. The following is one way of sterilizing the equipment and making the milk mixture for such a feeding when made with evaporated milk:

Make sure that the doctor's written order for the baby's feeding is where you can look at it.

Make sure that a clock is where you can look at it; see that it is going.

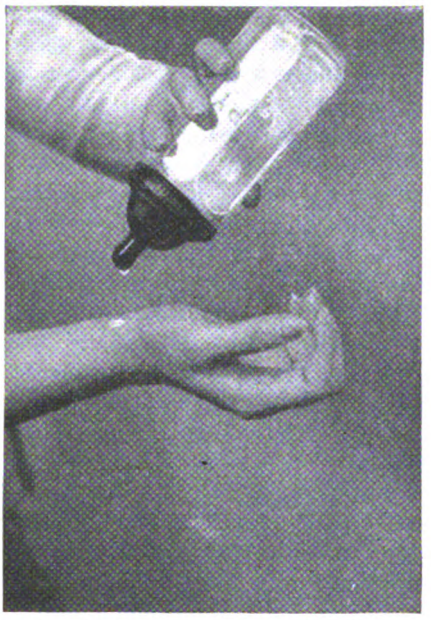
Wash your hands.

Have ready the following:

Small (6-oz.) can of evaporated milk.
Sugar or sirup.
Bottle brush.
Measuring cup if the nursing bottle is not marked off in ounces.
Measuring spoons.
Pan in which the bottle, nipple, and spoons can be boiled. If this pan has a tight-fitting cover the boiling can be done in less time than if an open pan is used.
Teakettle or saucepan for boiling water.
Knife, if sugar is used.
Can opener or ice pick.
Nursing bottle, which has been rinsed after the previous feeding and left full of water.
Nipple, which has been rinsed after previous feeding.

Scrub the inside of the bottle with a bottle brush and hot soapy water.

Rinse the bottle thoroughly.



The baby's milk should feel pleasantly warm on your wrist.

Wash the nipple with soap and water, turning it inside out.

Rinse the nipple thoroughly, seeing that all the soap is removed.

Fill the bottle with clean water.

Put the bottle and nipple, the measuring spoons, the can opener, and the measuring cup, if one is used, into a saucepan. Cover them with water, and let the water boil actively (bubble) for 5 minutes by the clock.

Remove the saucepan from the stove.

Pour off as much water as possible.

Take the bottle out of the saucepan without touching the lip of the bottle or the nipple.

If the bottle is marked off in ounces pour out enough of the water so that the amount of boiled water left in the bottle is the amount needed for the milk mixture.

If the bottle is not marked off in ounces pour the boiled water from the bottle into the boiled measuring cup, and after the bottle is empty pour back into it from the measuring cup the amount needed for the milk mixture.

Measure the required amount of sirup or sugar, using the boiled measuring spoon, and put it into the bottle.

Shake the bottle to mix the sugar or sirup and the water.

Clean the top of the can of evaporated milk by pouring boiling water over it or holding it under fast-running hot water. Wipe it with a paper towel.

Make one large hole in the can with the sterilized can opener or two small holes with the sterilized ice pick.

Pour the needed amount of evaporated milk into the bottle, measuring the amount by means of the marks on the nursing bottle. If the nursing bottle has no measuring marks, measure the milk in the boiled measuring cup and pour it into the bottle.

Take the boiled nipple out of the saucepan and put it onto the bottle, being careful not to touch any part of the nipple except the rim.

Test the temperature of the milk mixture by letting a few drops trickle from the nipple onto the inner side of your wrist. It should feel warm but not hot.

WARMING A FEEDING

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. Special bottle warmers may be bought, but they are no better than the ordinary saucepan. Heat the mixture rapidly. (While the milk is warming is a good time for the mother to wash her hands in preparation for feeding the baby.)

Usually the contents of the bottle become sufficiently warm (100° F.) in a

SAMPLE MILK MIXTURES FOR WELL BABIES OF DIFFERENT AGES

Age of baby	Weight of baby	Formula for milk mixture made with whole milk, granulated sugar[1], and water	Formula for milk mixture made with evaporated milk, granulated sugar[1], and water	
		For 24 hours	*For 24 hours*	*For single feeding*
3 days	7 pounds	Whole milk 8 ounces. Water 7 ounces. Granulated sugar[1] 1 tablespoonful. (6 feedings of 2½ ounces)	Evaporated milk 4 ounces Water 11 ounces Granulated sugar[1] 1 tablespoonful (6 feedings of 2½ ounces)	¾ ounce. 1¾ ounces. ½ teaspoonful.
2 weeks	7¼ pounds	Whole milk 12 ounces. Water 6 ounces. Granulated sugar[1] 2 tablespoonfuls. (6 feedings of 3 ounces)	Evaporated milk 6 ounces Water 12 ounces Granulated sugar[1] 2 tablespoonfuls (6 feedings of 3 ounces)	1 ounce. 2 ounces. 1 teaspoonful.
1 month	7¾ pounds	Whole milk 14 ounces. Water 6 ounces. Granulated sugar[1] 2½ tablespoonfuls. (5 feedings of 4 ounces)	Evaporated milk 7 ounces Water 13 ounces Granulated sugar[1] 2½ tablespoonfuls (5 feedings of 4 ounces)	1½ ounces. 2½ ounces. 1½ teaspoonfuls.
3 months	11 pounds	Whole milk 19 ounces. Water 6 ounces. Granulated sugar[1] 3 tablespoonfuls. (5 feedings of 5 ounces)	Evaporated milk 9½ ounces Water 15½ ounces Granulated sugar[1] 3 tablespoonfuls (5 feedings of 5 ounces)	2 ounces. 3 ounces. 1¾ teaspoonfuls.
5 months	14 pounds	Whole milk 24 ounces. Water 8½ ounces. Granulated sugar[1] 3 tablespoonfuls. (5 feedings of 6½ ounces)	Evaporated milk 12 ounces Water 20½ ounces Granulated sugar[1] 3 tablespoonfuls (5 feedings of 6½ ounces)	2½ ounces. 4 ounces. 1¾ teaspoonfuls.
7 months	16½ pounds	Whole milk 28 ounces Water 4 ounces. Granulated sugar[1] 1 tablespoonful. (4 feedings of 8 ounces)	Evaporated milk 13 ounces Water 19 ounces Granulated sugar[1] 1 tablespoonful (4 feedings of 8 ounces)	3½ ounces. 4½ ounces. 1 teaspoonful.
9 months	18½ pounds	Whole milk 28 to 32 ounces. (4 feedings of 7 or 8 ounces)	Evaporated milk 13 to 16 ounces Water 15 to 16 ounces (4 feedings of 7 or 8 ounces)	3½ to 4 ounces. 3½ to 4 ounces.

[1] An equal amount of corn sirup may be used instead of granulated sugar.

few minutes. It is not necessary to wait until the water boils. Shake the bottle several times to make sure that the milk is warmed through.

Remove the bottle cap and put on a sterile (boiled) nipple taken from the covered sterile jar. Touch only the rim of the nipple.

The temperature of the 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.

Never test the temperature of the baby's milk by taking a suck at the nipple.

The part of the nipple that goes into the baby's mouth should not be touched by anyone nor come in contact with anything until it reaches the baby's mouth.

SAMPLE MILK MIXTURES

The milk mixtures shown on page 83 are examples that may assist the mother in following the doctor's instructions.

The weights shown in the table are not intended to indicate that a baby of a certain age should weigh the amount shown. The weights are given because the feeding that is suitable for a baby depends upon his weight even more than on his age. For example, a 1-month-old baby who weighs 9 pounds usually needs more to eat than one of the same age who weighs 7 or 8 pounds.

The doctor should be consulted frequently regarding the milk mixture for any baby.

SAFE, FRESH MILK

The problem of the milk supply varies greatly, depending on whether the family lives in a large city, in a small city or town, or in a village or rural district. In most cities milk is purchased from dealers who are required by law to meet certain standards. In smaller communities there is often less careful supervision of milk production, and so it is important to investigate the conditions under which milk is produced before selecting a milk supply. On the farm milk to be used on the premises or by the neighbors should be handled with the same care as is taken in the larger dairies.

In Cities

In most large cities and in many small cities and towns, laws have been passed regulating the production and care of all milk sold and establishing standards for certain grades of milk. These standards take into account the composition of the milk (especially the percentage of fat), the conditions under which it is produced, the number of bacteria in it at the time of delivery, and whether it is to be sold raw or pasteurized. Sometimes milk is sold just outside a city which cannot be sold in the city because it does not meet the city requirements. Such milk should be avoided.

Pasteurized milk should be bought in preference to raw milk whenever it can be obtained.

Several grades of milk are on the market in cities, but the standards for a given grade are not uniform from city to city. Your health department can tell you what grades of milk sold in your community are suitable to give babies. In most cities grade A milk is milk from tuberculin-tested cows, which is produced under very good conditions and which has a low bacterial count.

"Certified milk" is milk produced under such good conditions that it meets certain special requirements of a medical milk commission. It is often sold raw. When certified milk is to be bought for a baby, buy certified milk

that has been pasteurized rather than certified raw milk.

Certified milk is more expensive than other fresh milk, and it is not available in all communities.

In Small Communities

In villages and rural districts where milk is supplied from small herds or single cows, public regulation of production and care of milk is more difficult. It is as important, however, to regulate the supply of milk in small towns and rural districts as in cities. All milk-borne epidemics, whether in cities, towns, or villages, are preventable if the milk supply is properly safeguarded.

If the milk supply in your community is not well regulated, you should find out how the milk that is sold is produced and cared for. Raw milk is not a suitable food for babies unless it is handled according to the standards described in the following section.

Care and Handling of Milk on the Farm

Milk is a very perishable food and is easily contaminated with disease germs from cows or from human beings. As much care should be taken with milk which is to be used on the premises or for distribution to neighbors as is taken in the larger dairies.

Milk should be taken only from healthy animals. A sick animal should be immediately isolated and its milk discarded.

Cows are very susceptible to tuberculosis, and if a cow has this disease the milk may be contaminated. If the owner is to be certain that his herd is free from tuberculosis, each cow should be examined and tested every 6 months.

Bang's disease is a contagious disease among cows, the chief symptom of which is abortion. A baby who drinks milk from a cow with Bang's disease may develop a serious illness called undulant fever. If you know that a farmer's cows are having abortions do not buy milk from him.

Goat's milk as well as cow's milk may contain the germs of tuberculosis or of undulant fever if the animal is infected.

The baby will not get either of these diseases from milk if his milk is always boiled.

To be kept healthy, cows (or goats) must be well fed and well cared for in clean, healthful surroundings. Stables that are well built, well aired, and well screened are necessary. The udder and teats of the cow should be washed and wiped dry before milking. This prevents dust and hair from dropping into the pail during the milking.

Milk should be chilled immediately after milking and should be kept clean, cold, and covered until delivery.

Milk Handlers.

Milk should be handled only by perfectly healthy persons. If a milk handler has tuberculosis, septic sore throat, typhoid fever, scarlet fever, or diphtheria, he may contaminate the milk and be the cause of a severe epidemic if the milk is consumed raw. Frequent examinations of milk handlers by physicians should be required as part of the routine. The milkers should wash their hands with soap and dry them carefully before milking. Milking with wet hands is almost certain to carry impurities into the milk. A clean washable suit should always be worn while milking. The milker should be very careful not to raise dust nor permit anything to fall into the milk.

Milk Utensils.

The pail, strainers, milk cans, and all other utensils should be clean and sterilized by boiling or steaming them before use.

The water used in washing the utensils and bottles, the udder of the cow, and the hands of the milker—everything touching the milk—must be clean and uncontaminated by disease-producing bacteria. Serious outbreaks of disease have been caused by use of contaminated water for washing.

Refrigeration.

After milking, the milk should be cooled quickly by placing the cans in a cooler or in cold water. Milk should be kept at 50° F. or below but not frozen.

Bottles.

The bottles should be thoroughly washed and sterilized daily. Clean caps should be used. The type of cap that covers the whole top of the bottle is the best, as it insures perfect cleanliness of the lips of the bottle over which the milk flows. When milk is to be used on the premises where it is produced it should be kept in sterilized, covered bottles or glass jars.

CHAPTER 14

Foods Besides Milk

ALTHOUGH milk is the most important of all the foods for babies, milk by itself does not supply everything that babies need from their food. Mother's milk does this much better than cow's milk, but even breast-fed babies can be kept in better health if they are given certain other foods besides milk. Foods that babies need during their first year of life in addition to milk are: Fruit juice, cod-liver oil, cereal, eggs, vegetables, fruit, meat, and toast or dried bread.

FRUIT JUICE

Fruit juice is given to supply vitamin C. The juice of the citrus fruits such as orange, grapefruit, and lemon contains larger amounts of vitamin C than any of the other commonly used fruit juices. The juice of certain tropical fruits, such as guavas, mangoes, and papayas, is even richer in vitamin C than the juice of citrus fruits; consequently physicians in the tropics sometimes recommend them instead.

Orange juice usually may be given without sugar, but grapefruit juice and lemon juice almost always have to be sweetened. Occasionally an especially sour orange juice will be liked better by the baby if a little sugar is added.

Tomato juice contains about half as much vitamin C as orange juice and therefore should be given in twice the quantity.

Citrus-fruit juice and tomato juice may be given either canned or fresh, as commercial canning does not destroy the vitamin C in these juices. Strained canned tomatoes may be used. Tomatoes and tomato juice canned at home are good sources of vitamin C if they are canned by the method recommended by the United States Department of Agriculture or a State college of agriculture.

Canned pineapple juice, unlike orange juice and tomato juice, does not contain as much vitamin C as the fresh juice. Canned pineapple juice must be given in such large amounts that it is not suitable as a source of vitamin C for babies.

Occasionally fruit juice may cause some digestive or skin disturbance. If it seems likely that the trouble is due to a particular fruit juice, another juice may be given. If the disturbance continues consult the doctor. If he agrees that the fruit juice is to blame he will probably suggest a substitute for it.

Fruit juice should be started when the baby is 2 weeks old. When the mother of a breast-fed baby has been eating a liberal amount of citrus fruits and other fruits and vegetables, some doctors prefer not to give the baby fruit juice until about the end of the first month of life. Start by giving 1 teaspoonful of strained orange juice daily. The amount can be gradually increased until by the time he is 2 months old the baby is getting 3 ounces a day.

Tomato juice and other fruit juices should be kept cold after the fruit is

squeezed or the can is opened, so as to prevent much loss of vitamin C.

SOURCES OF VITAMIN D

Both breast-fed and bottle-fed babies need more vitamin D than they receive in their milk. Some food or other preparation to supply this vitamin should be given the baby by the end of the second week of life and continued throughout at least the first 2 years. It is usually better to give a preparation that supplies vitamin A and vitamin D, rather than one that supplies only vitamin D.

Amount of Vitamin D Needed

The amount of vitamin D in any food or other preparation is measured in units defined in the United States Pharmacopœia; those are known as U. S. P. units. The label on every bottle or package of a preparation that supplies vitamin D should show how many U. S. P. units of the vitamin are contained in a given amount of the preparation. (See p. 89.)

Some babies need only 400 units of vitamin D daily, but many babies need more than this amount. For this reason it is desirable to give all babies and small children 800 units daily in order to allow an ample margin of safety.

In midsummer, even if your baby is getting a good deal of direct sunshine, it is better not to reduce the amount of vitamin-D preparation he is getting unless your doctor advises you to do so.

Cod-Liver Oil

Cod-liver oil and some other fish-liver oils are commonly given to babies because they are rich in vitamins A and D. Ask your doctor which preparation is best for your baby and how much to give.

The amount of vitamin D and vitamin A in cod-liver oils is variable. If the label on a cod-liver-oil bottle states that the oil contains the minimum requirement of vitamins A and D, this means that it is standard cod-liver oil. A standard cod-liver oil contains at least 85 U. S. P. units of vitamin D and 850 of vitamin A in each gram (about one-fourth teaspoonful). Many cod-liver oils contain more of the vitamins than these minimum requirements. Some may contain as much as 200 units of vitamin D and 2,500 units of vitamin A in each gram.

Some manufacturers market a cod-liver oil to which extra vitamin D has been added. This is called fortified cod-liver oil. The vitamin D in such an oil may be as high as 2,500 units per gram.

Other Fish-Liver Oils

The doctor may recommend the use of oil from the liver of some other fish, such as the percomorphum and the halibut, which contain more vitamins A and D than does cod-liver oil. The oils of several kinds of fish are sometimes mixed and sold as a blend, and some doctors recommend the use of these mixed oils. They are sold as liquids or in capsules.

Viosterol

Viosterol is vitamin D dissolved in a bland oil; it is not a concentrated fish-liver oil. It does not contain any vitamin A, and therefore viosterol alone is not a substitute for cod-liver oil.

Vitamin-D Milks

There are several varieties of milk—both fresh and evaporated—on the market that have had the vitamin-D value increased by some special process. If

such milk is used, enough additional vitamin D should always be given to insure that the baby gets not less than 800 units a day.

Amounts of Vitamin D in Different Preparations

How much cod-liver oil or other vitamin-D preparation a baby needs will depend upon the amount of the preparation that will supply 800 U. S. P. units of vitamin D.

For cod-liver oil that just meets the U. S. P. standard of 85 units of vitamin D per gram, the amount recommended for most children under 2 years of age is 2½ teaspoonfuls a day. The following table is a rough guide to the amounts of different preparations of vitamin D needed to supply 800 U. S. P. units.

If a preparation is used that is given in comparatively large daily doses (more than 10 drops), start by giving the baby a small part of the dose. Increase the amount gradually until the recommended amount is being given by the end of the first month of life. For example, standard cod-liver oil may be begun by giving ½ teaspoonful twice daily, and gradually increased until, by the time the baby is a month old, he is getting 1¼ teaspoonfuls twice daily.

Giving Cod-Liver Oil

When a baby is very young it is difficult to feed him anything with a spoon, but it is easy to feed him cod-liver oil with a medicine dropper. The oil should be gently dropped into the corner of the baby's mouth and then his lips closed until he swallows. Care must be taken not to squirt the oil far back into his mouth as this may make him choke. Some oils are put up in capsules made so that the tip can be nipped off and the oil dropped into the baby's mouth.

As the baby gets a little older it is easier to give him the oil from a spoon.

Whether the oil is given with a dropper or from a spoon, the baby should be held in a partly sitting position so that the oil will not "go down the wrong way."

A glass medicine dropper with a rubber bulb is satisfactory for giving the oil to a young baby. It must be thoroughly

APPROXIMATE AMOUNTS OF COD-LIVER OIL AND OF OTHER PREPARATIONS NEEDED TO SUPPLY 800 U. S. P. UNITS OF VITAMIN D

If the cod-liver oil or other preparation contains in each gram the amount of vitamin D shown below—	The amount that should be given daily to supply about 800 units will be—
85 units	2½ teaspoonfuls.[1]
175 units	1¼ teaspoonfuls.
250 units	¾ teaspoonful.
400 units	½ teaspoonful.
1,000 units	40 small drops.[2]
5,000 units	8 small drops.[2]
10,000 units	4 small drops.[2]

[1] A household teaspoon holds 4 grams of cod-liver oil.

[2] This amount is approximate only. Usually a special dropper, which delivers small drops, is supplied with the preparation, and the label tells how many units of vitamin D are contained in 1 such drop.

Wipe top of cod-liver oil bottle before putting it in refrigerator.

washed with soap and hot water immediately after each using and the glass part boiled before it is used again. The rubber bulb should not be allowed to come into contact with the oil as oil makes rubber deteriorate. A dropper that fits into the top of the bottle of a concentrated vitamin preparation need not be washed if put back into the bottle immediately.

Cod-liver oil leaves a stain on clothing or bed linen. It is, therefore, wise to have at hand a paper handkerchief with which to wipe off oil from the baby's face. Some mothers prefer to give the oil when the baby is undressed, just before the bath, so that there will be little danger of getting the oil on clothing or blanket.

By the time a baby is a few months old he generally learns to take cod-liver oil without spilling it, and then it can be given after a meal.

If the mother dislikes cod-liver oil herself, she must be careful not to let her expression or her actions show her dislike. If she does, the baby will learn to dislike it by watching his mother. Strange as it may seem to many mothers, almost all children like cod-liver oil.

Keeping Oils Containing Vitamins

Cod-liver oil and other oils containing vitamins spoil rather easily and therefore should be kept cold, covered, and clean. Always keep the bottle of oil in a cold place, and keep the cap well screwed on. Each time some oil is poured out, wipe off the lip of the bottle so that the outside does not become sticky with oil. If properly kept, the oil will remain fresh for several months after the bottle has been opened. If a cold place is not available for keeping the cod-liver oil, it is not wise to buy a bottle that holds more than a 2 months' supply.

A pint bottle holds 96 teaspoonfuls of cod-liver oil; a baby who is getting 2 teaspoonfuls of cod-liver oil a day will use a pint bottle in about a month and a half.

Frequently when a mother complains that cod-liver oil or other fish-liver oil does not agree with her baby it is found that she has been using a rancid oil. Keep vitamin-containing oils as carefully as you would butter.

CEREALS

Cereals may be started when the baby is about 4 months old. Cereals made from whole grain, such as rolled oats and water-ground corn meal, are better for the baby than refined cereals, such as white farina and bolted corn meal.

Some cereals on the market have had vitamins and minerals added to them, and the doctor may recommend some of these.

Cereals need to be cooked thoroughly, either at the factory or in the home, before being given to a baby. Some cereals have been partly cooked at the factory and do not need long cooking at home. If a quick-cooking cereal is used the label on the package will tell how long it needs to be cooked.

Certain cereals, especially prepared for babies, have been thoroughly cooked at the factory and need merely to be mixed with warm milk or water. These cost a little more than most cereals prepared at home.

The cereal that is cooked for the family may be used for the baby. For a young baby cereal with coarse fiber, such as cracked wheat, and any cereal that has lumps should be strained and it should be thin enough to run off the end of a spoon. If it is too thick it may be thinned by adding boiling water or part of the baby's milk mixture.

Begin with a teaspoonful of cooked cereal just before the 10 a. m. feeding and increase the amount gradually by a teaspoonful or two a day.

By the time the baby is about 7 months old he may be taking from 2 to 5 tablespoonfuls of cereal twice a day. It may be made thicker so that he will learn to take some solid food.

If no cereal is prepared for the family, the mother may find it convenient to cook enough at one time to last the baby 2 days. If this is done the cereal that is left over should be kept covered and cold.

As a substitute for cereal, potatoes—boiled, steamed, or baked—which have been mashed with a fork may be given several times a week after the baby is 6 months old. Cook the potatoes with the skins on and peel them after cooking.

EGGS

Egg yolk may be added to the baby's diet when he is about 4 months old. Some doctors add it in the third month or even earlier. The egg may be soft-cooked, or hard-cooked and mashed.

The first time egg yolk is given, give a very small amount (one-fourth teaspoonful or less) at the 2 p. m. feeding. Increase the amount gradually each day. When the baby is about 9 months old he may be given a whole egg.

A very few babies are made sick by eggs. If your baby seems sick after he first gets egg yolk, do not give it again until you have told the doctor about it.

VEGETABLES

Vegetables should be started when the baby is about 5 months old and given once a day at the 2 p. m. feeding. Give a green leafy vegetable such as spinach, chard, beet greens, turnip greens—any green leafy vegetable that is in season—two or three times a week. On the other days give carrots, green peas, green lima beans, asparagus, broccoli, or string beans, or any other vegetable that can be readily mashed through the strainer. Potatoes may be given occasionally in place of cereal at 10 a. m. or 6 p. m. but should not replace other vegetables. Begin by giving about a teaspoonful of mashed vegetables once a day and increase the amount fairly rapidly to 2 tablespoonfuls when the baby is 6 months old, 3 tablespoonfuls when he is 7 months old, and 4 tablespoonfuls when he is 8 months old. From this time on give 4 tablespoonfuls daily. Remember that these amounts are only average ones. Some babies will take more, some less. Do not try to increase the amount of vegetable faster than the baby is willing to take it.

Vegetables should be cooked until tender in a small amount of water, with

a little salt, then mashed through a sieve or strainer. If any of the cooking water is left it should be added to the strained vegetable.

The length of cooking will depend upon the kind of vegetable, but it is important to cook vegetables only long enough to make them tender and to use so little water that most of it will be taken up by the vegetables while cooking. Use an uncovered pan for cooking vegetables with a strong flavor, such as cauliflower, but for all other vegetables use a covered pan, as this makes it possible to use very little water. Start the cooking with boiling water. Usually it is not necessary to add water to greens because enough water clings to the leaves after washing. Never add soda to vegetables; soda destroys some of the vitamins.

Vegetables for the baby should not have any seasoning except a little salt.

A small amount of butter or fortified margarine may be added toward the end of the first year, if desired.

Mothers can often save time in preparing the baby's meals and give the baby a greater variety by using some of the vegetables cooked for the family table. For the baby, mash some of the cooked vegetables through a sieve or strainer. Enough mashed vegetables to last the baby for 2 days can be prepared at one time, if the part kept for the next day is kept covered and cold, preferably in a refrigerator.

Later, it is desirable to allow him to have his vegetables in a little coarser form, or mashed with a fork but not mashed through a strainer.

Canned vegetables may be used in place of fresh vegetables by mashing through a sieve or strainer. Some canned vegetables prepared especially for babies are on the market. Those prepared for young babies have been mashed through a strainer; those for older babies, cut fine. They need only be warmed. These canned vegetables are a convenience, but they are rather expensive. If only part of a can of vegetables is used at a time, the remainder may be kept in the can for the next day only if the can is covered and kept cold.

When home-canned foods are used, it is of the utmost importance to know whether nonacid vegetables (that is, all except tomatoes) have been canned in a pressure cooker with a gauge that has been tested recently and found to be reliable. If there is any doubt as to whether they have been canned by this method, nonacid vegetables should be boiled for 15 minutes after they have been removed from the can, even if they are to be served cold. Count the time after boiling has begun.

FRUITS

Apple sauce, apricot or prune pulp, and some other stewed fruits such as peaches, mashed through a sieve or strainer, may be given once a day, beginning when the baby is about 7 months old. Bananas provide sugar in a form easily digested by a baby and are also a good source of several vitamins. Only thoroughly ripened bananas that have yellow skins with spots of brown should be given to babies. The ripe banana should be peeled, the stringy material scraped off, and the soft pulp mashed and fed to the baby with a spoon. Never give a baby any of a banana that has any green in the skin. The doctor will tell you at what age the baby may have banana and how much he may have. (For discussion of fruit juices, see p. 87.)

MEAT

By the time the baby is 7 months old he may have scraped liver or other lean

meat with his 2 p. m. feeding. Scraped meat is prepared by scraping a piece of raw meat with a knife. The tough, fibrous part of the meat remains attached to the main piece, and the tender pulp is collected. The pulp should be cooked quickly in a hot pan with just enough fat to prevent sticking.

BREAD

After the baby's first teeth have come give him bread dried in the oven or zwieback after his meals. If commercial zwieback is used it is better to buy the unsweetened kind. Commercial zwieback is more expensive than dried bread.

Bread made from whole grains, and enriched bread (see p. 65), are better for the baby than bread made from unenriched flour. The whole grains contain minerals and vitamins that are lost in the process of refining the flour. These minerals and vitamins are valuable food substances for the baby. Whole-grain bread must not be confused with cracked-wheat bread or bran bread, which are made from refined flour with coarse particles of the wheat kernel added. Cracked-wheat bread and bran bread are not suitable for a baby.

Dried bread is much better for a baby than crackers because crackers soften in the mouth and give little exercise for the jaws and teeth. It is dangerous to give a baby dried bread while he is lying down, as it may choke him.

FOODS IN ADDITION TO MILK THAT ARE GIVEN TO BABIES AT DIFFERENT AGES[1]

2 weeks old	1 teaspoonful orange juice; 1 teaspoonful cod-liver oil.
1 month old	1 ounce orange juice; 2½ teaspoonfuls cod-liver oil.
2 months old	3 ounces orange juice; 2½ teaspoonfuls cod-liver oil.
3 months old	3 ounces orange juice; 2½ teaspoonfuls cod-liver oil.
4 months old	3 ounces orange juice; 2½ teaspoonfuls cod-liver oil; cereal; egg yolk.
5 to 6 months old	3 ounces orange juice; 2½ teaspoonfuls cod-liver oil; cereal; egg yolk; vegetables.
7 months old	3 ounces orange juice; 2½ teaspoonfuls cod-liver oil; cereal; egg yolk; vegetables; fruit; scraped meat.
8 to 12 months old	3 ounces orange juice; 2½ teaspoonfuls cod-liver oil; cereal; whole egg; vegetables; fruit; scraped meat; dry toast as soon as the baby has some teeth.

[1] Amounts of cod-liver oil are for standard cod-liver oil. For amounts of other oils and other substances containing vitamin D, see p. 89.

CHAPTER 15

Some Feeding Problems

A UNDERFEEDING

A BABY who shows no gain in weight, or a loss in weight, may be underfed. Underfed babies are apt to be cross and fretful. They often wake up before feeding time and cry. They are more likely to suffer from colic than babies who are getting enough food, and many babies are thought to have colic when they are really hungry.

Occasionally an underfed baby will sleep more instead of less than a well-fed baby. The baby may eat for a short time and then stop and fall asleep, or he may cry after an exhausting attempt to obtain food.

The stools are scanty, often only brown stains.

The baby who has been underfed for some time seems weak, his body may feel flabby, and his skin may look pale.

The Breast-Fed Baby

A breast-fed baby may be underfed because his mother does not have enough milk, or he may be underfed because he is too weak to nurse properly or has a deformed mouth and cannot suck well.

The way to find out whether a breast-fed baby is getting enough milk is to weigh him before and after each feeding for a period of 24 hours, or better, 48 hours.

To do this, weigh the baby and whatever clothes and blankets are on him at the time that nursing started. At the end of the nursing weigh him again with exactly the same clothes and blankets. Do not change his diaper before this second weighing. The difference in the two weights represents the number of ounces of milk the baby has taken from his mother. The number of ounces the baby gets in 24 hours will show whether the mother is producing enough milk. A baby needs between 2 and 3 ounces of breast milk for each pound of body weight. The doctor will tell you whether the baby is getting enough milk.

If the supply of breast milk is not sufficient for the baby, steps can be taken to increase it. Until it is increased, he should get additional food. (See p. 69.)

To increase the mother's milk supply attention should be paid to her diet and hygiene. She should have plenty of rest and sleep and take the proper amounts of food and liquids. (See pp. 63–68.) The breasts should be emptied completely at regular intervals. (See p. 68.) If the milk obtained from one breast is not enough, both breasts should be used at each feeding. Persistent efforts to increase the amount of milk will usually be successful.

If the baby is not able to suck properly the mother's milk should be expressed from her breasts and fed to the baby with a medicine dropper, which has been sterilized by boiling. The baby's nose and throat should be examined by a doctor.

The Bottle-Fed Baby

The bottle-fed baby may be underfed either because he is not getting enough milk mixture or because his milk mixture is too weak. If the bottle-fed baby shows any of the signs of underfeeding described, consult the doctor.

OVERFEEDING

A baby's appetite usually regulates successfully the amount of food he takes, but occasionally a baby may take too much food. If he does his stomach will be overloaded, and he will be apt to spit up some of the food or he may even vomit the whole feeding. He may be fretful and cry; he may even have colic.

The Breast-Fed Baby

When overfeeding occurs in a breast-fed baby it usually means that the nursing periods are too frequent or that the quantity of milk at one time is too large. To remedy this, the time at the breast should be decreased and the interval between feedings increased if less than 4 hours. Sometimes a little water before nursing will help. (Less frequent feedings will help regulate the oversupply of milk.)

The Bottle-Fed Baby

If overfeeding occurs in a bottle-fed baby it usually means that the milk mixture has been strengthened beyond the needs of the baby, or the feedings are too frequent, or the baby has been forced to take more than he wants. The doctor should be consulted.

SPITTING UP

Spitting up or spilling over (not the same as vomiting) is usually due to air that the baby has swallowed. Spitting up is common in both breast-fed and bottle-fed babies. It can nearly always be prevented by "belching the baby." (See pp. 44–45.) If, however, after every feeding the baby spits up even after he has belched it may be that he is either underfed or overfed.

HICCOUGHS

Babies often have hiccoughs, and this should not cause anxiety. Give the baby a drink of warm water, or turn him over and pat him on the back, or pick him up. It may be necessary to lengthen the interval between feedings if it is less than 4 hours.

COLIC

Colic is a cramp-like pain in the abdomen. A baby with colic cries vigorously, pulls his legs up, and gets red in the face. His feet may be cold. These symptoms may alarm the mother, but the condition is almost never serious.

Colic is caused most frequently by air in the stomach and can be relieved by getting rid of the air. Sometimes holding or rocking the baby will quiet his cries and make belching easier for him. A drink of warm milk or water (a trifle warmer than that usually given) will sometimes help him belch.

A breast-fed baby sometimes has colic when his mother is anxious or emotionally upset.

Colic may sometimes be caused by allowing the baby to become chilled soon after a feeding or by giving him his drinking water or his milk too cold.

If colic does not disappear when these suggestions are followed, or if it occurs frequently and is severe, it may be that some change needs to be made in the baby's food, and the doctor should be consulted. Sometimes it is necessary for the doctor to prescribe medicine to re-

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lax the contractions of the stomach or intestines. "Colic medicine" should not be given except on the advice of a doctor.

Babies seldom have colic after the first 3 or 4 months of life.

STOOLS

The newborn baby's first stools are known as meconium. They are dark green, thick, and sticky, with little or no odor. They soon change in appearance as the baby begins to eat.

The stools of a healthy breast-fed baby are bright orange-yellow, though occasionally they may be tinged with green. They are soft and may contain very small, soft curds. They have a spicy odor that is not disagreeable. When vegetables and other foods are added to the diet the stools change slightly. A breast-fed baby ordinarily has one to three stools a day; he may even have four. As he grows older he usually has fewer. Occasionally a breast-fed baby will have only one stool every 2 or 3 days.

The stools of a healthy bottle-fed baby are different from those of a breast-fed baby. They are much firmer and with slight odor. The color varies from lemon yellow, if white sugar is used in the milk mixture, to dark or light brown if malt sugar is used. The stool is smooth and somewhat pasty in character. A bottle-fed baby ordinarily has fewer stools than a breast-fed baby.

Some well babies have infrequent stools; they may have one only every other day. Such a baby is not to be considered constipated, so long as his stools are soft and pasty. If they are hard and dry and the baby passes them with difficulty, he is constipated and the doctor should be told. Constipation is less common in the breast-fed baby than in the bottle-fed baby, but in neither baby is it to be looked upon as a serious condition. In the bottle-fed baby it can nearly always be dealt with by changing the formula for the milk mixture, which your doctor will do if necessary. Never give castor oil or other cathartics except on the doctor's advice.

Loose, green, frequent stools are a sign that something is wrong, and a doctor should be consulted at once. Diarrhea is often a symptom of some serious disease, and it should not be neglected.

If any blood is seen in the baby's stool tell the doctor immediately.

CHAPTER 16

Teeth

THE TEETH begin to develop about 6 months before birth and keep on developing during the entire period of childhood. Nearly all the teeth of the first set—the deciduous or "milk" teeth—are already partly or wholly hardened at birth. As the baby grows the teeth grow also; and if he is healthy, some teeth begin to cut through the gums at about the sixth to the eighth month of life. From then on new teeth appear at intervals, until the baby is about 2½ years old when, as a rule, all the 20 teeth of the first set have come through.

By the end of the first year many babies have six front teeth although some healthy babies have only two. If a year-old baby has no teeth at all the doctor should be consulted. The diet may be at fault, or some disease may be slowing the baby's growth; racial and family traits may account for delayed teething.

There is a good deal of difference in the age at which the various teeth come through the gums, but the order in which they come is the same for almost all babies. First the two lower front teeth appear; then after a time the four upper front teeth. After this, it is usually some months before more teeth come through. Then two more lower teeth appear in the front of the mouth. In a few months two teeth appear in the lower jaw—one on each side—near the back; then two in the upper jaw, opposite these. Later four eyeteeth come through—two upper and two lower. After a while the four back teeth come through, and then the temporary set of teeth is complete.

While a tooth is coming through the gum the baby may be irritable or fretful and may not eat well, but teething alone rarely accounts for illness. The illness should not be attributed to teething until all other possible causes, such as a cold, an abscess in the ear, and other diseases, have been ruled out by the doctor.

The permanent teeth develop during the last months before birth and during the first year of life, though they do not come through the gums until the sixth to the tenth year. Whether they will be strong and firm depends largely upon the food the baby gets while they are forming. If the child is to have good permanent teeth—straight, strong, and regular, with upper and lower sets meeting to form a good chewing machine—his baby teeth must be kept in good condition. He needs his baby teeth to chew his food and hold the jaws in shape so that the permanent teeth will have plenty of room. Exercise in biting and chewing helps to develop strong, healthy teeth and jaws. When the baby is about 8 months old begin giving him some dry, hard bread or toast at the end of a feeding but watch him carefully until he learns how to eat hard food.

The child's gums should be smooth, firm, and a light pink color.

CHAPTER 17 Prevention of Accidents

A BABY should never be left alone in the house, whether awake or asleep. Reports are heard only too often of babies who are smothered or burned while the mother was out. Do not leave a baby alone while you go to the store or to a neighbor's and do not leave him with only small children to take care of him. When he is taken out in a baby carriage, an adult, not a child, should take care of him. Never leave a baby alone while he is in a bathtub. (See Safety during bath, p. 34.)

If parents wish to go out in the evening, they should have a responsible person—not a child—stay with the baby to meet emergencies. Parents may be able to arrange to take turns with other parents in staying with the children.

If the baby is to be kept safe everyone in the family should see that nothing is brought near him that might injure him. The other children should be trained to keep scissors and knives out of his reach, and the younger ones should be trained to let matches alone, for their own safety and the baby's.

A play pen (see p. 11) will keep the baby away from many dangers.

Never use a baby powder containing stearate of zinc, because if stearate of zinc is inhaled, a serious and often fatal form of pneumonia develops. Never give a baby a can of baby powder as a plaything, even one that seems to be empty. If he puts the top in his mouth, he may inhale the powder.

The mother should keep her fingernails and the baby's short and smooth so that the baby will not be scratched, and she should have no unprotected pins or needles in her clothing or anywhere near the baby.

The mother should not put pins in her mouth, for if an older baby sees her do this he may do it too.

SMOTHERING

Special precautions should be taken to prevent smothering. Babies have been smothered when in bed with an older person who, while sleeping, rolled onto the baby or pulled the covers over him. A baby should sleep alone. Sometimes a baby is smothered when his head becomes buried in a feather pillow or a feather bed; neither of these should be used for a baby.

CHOKING

Straps for keeping the baby in bed and drawstrings at the neck of sleeping bags and outdoor garments have caused choking as a result of their getting twisted and tight around the baby's neck.

The baby may choke on any small object. For this reason small toys and toys with small parts that might come off, such as whistles, should not be given to him; small objects such as beads, coins, and pins should be kept away from him; and he should not

have small hard things to eat, such as peanuts.

BURNS

To prevent burns, which are far too common among babies, take care (1) to prevent accidental fires in the house and (2) to keep the baby away from such dangerous things as heaters, hot liquids, and flames of all kinds. Older babies frequently are burned as a result of pulling at tablecloths and upsetting hot coffee or soup. A fire screen is necessary if an open fire is used.

POISONING

Keep all medicines and pills—and, especially, all poisons—in a medicine cabinet or on high shelves well out of children's reach. Do not leave a bottle of iodine or of any medicine on the washstand or on the table. Do not leave a can of lye or of kerosene on the floor or in any place where a creeping child might get hold of it. Lye causes a type of burn in the mouth and throat that may cause death.

Boric acid is not usually thought of as a poison, but it is poisonous if enough is swallowed. If boric acid is used in the household, it should be plainly labeled and kept with the medicines, not with the food or household supplies.

A baby who chews painted toys or a painted crib or other furniture may get lead poisoning. If such articles are painted in the home, use only paint that the manufacturer says is harmless to children if swallowed. Some things are guaranteed by the manufacturer to be painted with harmless paint.

To avoid gas poisoning, be sure that gas fixtures do not leak and that any gas flame that might be blown out accidentally is not left burning. When gas is burning in a room, see that the room is very well ventilated. Never leave a baby alone in a room with a lighted gas heater or gas stove.

FIRES

Even if the house can be reached easily by a public fire department, fire precautions should be the rule in every family. Fire-resistant construction is the best defense, but much can be done in an ordinary house to prevent fires.

The chief causes of home fires are careless use of matches and cigarettes, careless burning of refuse, and use of defective stoves and chimneys.

Use metal containers for matches, trash, and ashes. Have stoves and chimneys inspected regularly. See that heating equipment of any kind is properly installed and cared for. If gas is used, have metal pipe connections, not flexible tubing. Do not place a gas stove or heater where a curtain can be blown near it. Use only electrical equipment approved by the Underwriters' Laboratories (a noncommercial organization) and have it inspected frequently by an electrician. Do not use worn cords or loose fixtures.

Do not allow rubbish to accumulate. Destroy as soon as possible all cloths and papers used in cleaning with oil or wax; a pile of such cloths or papers is likely to take fire of itself.

Have at least one fire extinguisher and have it charged once a year.

See that all stairways and doors are kept clear all the time.

CHAPTER 18

Prevention of Disease

THE BABY to keep well needs not only to get the things that are good for him but to be protected from disease. Doctors do not know how to prevent all diseases in babies, but they do know how to prevent many diseases. Usually the first step in preventing a disease is understanding what causes it. When doctors understand what kind of things make babies sick, they can help mothers protect babies from those things. At the present time doctors say that a baby can be protected against most diseases in four ways:

By feeding him enough clean, nutritious, digestible food.

By keeping him away from sick people.

By giving him special protection (inoculations) against some diseases.

By paying special attention to his mother's health before he is born and while he is being nursed.

PROPER FOOD

Babies, even more than grown-ups, are made sick by food that is either not clean or not suited to their needs.

Clean Food

Clean food means food free from germs. Food may look quite clean, may even taste all right, but still it may have so many germs in it that a few mouthfuls will make a baby seriously ill. Germs may get into a baby's food in many ways.

The germs that cause the most trouble in a baby's food come from human beings, although germs from animals may also make the baby sick.

Germs from human beings may come from the nose and throat of some person with an illness, such as a cold or tuberculosis, or from the stool of some person with diarrhea or other intestinal disease.

Disease germs from the nose or throat of someone handling the baby's food may be carried into his food by a fine spray, which is constantly being thrown into the air from people's noses and throats, especially when they cough or sneeze. If these germs get into the baby's milk they will grow. If the milk is warm they will grow very rapidly.

Disease germs from the stools of human beings get into a baby's food in two ways: (1) They are carried on the skin of people who do not wash their hands after going to the toilet; (2) they are carried on the feet of flies, which feed on human filth and then walk over food, leaving footprints of contaminated material.

Disease germs may come from any animal; those from cows cause the most trouble in babies' food.

If milk from a tuberculous cow is given raw to a baby he may develop a type of tuberculosis, not of the lungs but of some other part of the body, which in babies is even more serious than in adults. Milk for babies should come only from tuberculin-tested cows, and no raw milk should be given to a

baby. The milk from cows with Bang's disease can give the baby undulant fever. Goat's milk as well as cow's milk may contain the germs of tuberculosis or undulant fever if the animal is infected. To safeguard the baby against these infections only pasteurized milk should be bought.

Rats and mice sometimes have in their bodies germs which, if allowed to get into a baby's food, will make him sick. Germs from rats cause trouble in food if these animals are allowed to come into contact with food after it has been cooked. All food for a baby should be kept covered.

One reason for feeding a baby at his mother's breast is that the milk is always clean. There is little opportunity for it to become contaminated with germs in going from the breast to the baby's mouth. In contrast think of the long trip that cow's milk must take from the time it leaves a cow's udder until it gets into the baby's mouth. There are many opportunities for germs to get into the milk and plenty of time for these germs to multiply. For the baby who is fed cow's milk, the mother must take great care that the milk is free from germs. (For discussion of care of milk for the baby, see pp. 72–74 and 78–86.)

When the weather is hot, special care is necessary to keep milk free from germs. Most of the danger for which hot weather is blamed, especially during weaning, can be avoided if the baby's milk is free from germs when he gets it.

Not only milk but everything else that the baby eats must be clean; that is, free from harmful germs. All the food must be protected against flies, rats, and mice. If a fly walks across a dish of cereal or a piece of bread, or around the edge of a glass of milk, the baby should not be allowed to have that food. Food, especially cooked food, should never be left where any kind of animal can touch it.

Anything that is not clean contains germs. For this reason everything that comes into contact with a baby's food should be clean. Every cup, spoon, or other utensil that touches a baby's food should be boiled before it is used.

The mother should wash her hands thoroughly before preparing the baby's food and before feeding him.

Nutritious Food

During his first year a child grows more rapidly than at any other time. When it is realized that many pounds must be made out of the food that the baby eats, it is easy to understand how important it is that the food be adequate in quantity and that it contain all the substances necessary to make healthy tissues.

If a baby's food is inadequate in total amount, or if several of the substances necessary for health either are absent or are inadequately supplied, general malnutrition develops. General malnutrition can be prevented by making sure that the baby receives all the necessary food substances in sufficient quantity. (For amounts and kinds of food necessary, see pp. 62–93.)

If a baby's food does not supply enough of any one of the necessary substances a disease may develop called a deficiency disease, such as rickets and scurvy. (For discussion of these diseases, see p. 120.) These diseases can be prevented by making sure that the baby receives enough of the right foods.

Easily Digested Food

Not only must a baby's food be clean and be adequate to nourish him, but it must be such that he can digest it.

Babies are not able to digest all the foods that grown-ups can digest. Breast milk can be digested easily by babies. Cow's milk cannot be readily digested raw by most babies, but it can be made more digestible by proper preparation. (See p. 72.)

Some of the foods other than milk that the baby eats during his first year need to be specially prepared for him. Before the baby has enough teeth to chew his food he must be given only food that is soft. Vegetables must be mashed through a fine strainer, and cereal must have enough milk added to it to make it soft. Later the baby may be given vegetables that are chopped instead of put through a strainer.

AVOIDING SICK PEOPLE

Babies are very susceptible to diseases that they can get directly from sick people. When people are healthy, the germs present in the fine spray from the nose and throat are usually harmless; but when they have a cold or a cough or tuberculosis, the spray may contain thousands of disease germs. Even a very short time with such a person may be long enough for the baby to get enough germs to make him very sick. A baby should never be taken to visit a sick friend, especially if the friend has a cough. No one who is ill should be allowed to go near a baby. No one, not even the mother, should ever kiss the baby on the lips or breathe into his face.

Guarding Against Colds

A cold may be a serious illness for a baby. A mother should take every precaution to protect her baby from colds. It sometimes takes tact and firmness for a mother to prevent well-meaning friends from playing with the baby when they are suffering from "just a cold." Whether a person has a cold or not, he should not lean over a baby nor breathe into his face.

When the mother has a cold, it is sometimes very difficult to protect the baby adequately. If it can possibly be arranged, someone else should take care of the baby for a few days until the mother has recovered. If a substitute for the mother cannot be arranged for, the mother must take as much care as possible not to allow her breath to come near the baby. She should use a gauze mask or tie a handkerchief over her nose and mouth when she handles the baby and, of course, she should wash her hands carefully before touching the baby or his food. When a mother with a cold succeeds in keeping her baby from catching it, she can feel that she accomplished something worth while. It does, however, require time and trouble to take the necessary precautions.

When a baby has a cold the mother should see that he has the proper treatment (see p. 119) and that he does not spread the cold to others. She should keep other children away from him and should not allow him to cough in her face.

"Family epidemics" of colds are difficult to prevent; the only way to prevent them is to keep the sick members of the family away from the well ones.

Preventing Tuberculosis

Tuberculosis of the lungs is a serious and often fatal disease in infancy. Babies get tuberculosis of the lungs by being near a person who has tuberculosis. To prevent this type of tuberculosis in a baby, keep him away from anyone who has the disease, even if it is his mother or father or some other relative, and from anyone that has a cough.

A tuberculous person may infect a baby directly through germs in the droplets or spray that he breathes or coughs out, and for this reason a baby should not live in the house with a person suffering from active tuberculosis. The germs may be present on the floor or in the rugs and may infect the baby while he creeps. If any member of the household has the disease, either that person or the baby should be removed from the home. If the mother has active tuberculosis when the baby is born, he should be taken away at once. She should neither nurse him nor take care of him. Babies should be kept away from any person with a chronic cough, since frequently such a cough is due to tuberculosis, whether recognized or not. Many mothers, not knowing that old persons may have tuberculosis, fail to keep the baby away from an old person with a cough.

Preventing Gonorrhea

Diseases transmitted through the nose and throat are not the only ones that babies can get directly from other people. The delicate mucous membranes in the eyes of babies and in the vagina of baby girls are places where the germs of gonorrhea grow rapidly. The germs may get on the fingers of an adult who has the disease in an active form, and the germs may be transmitted to the baby if such an adult takes care of the baby. This disease is serious. If it is in the baby's eyes and is not promptly and adequately treated, it may cause permanent blindness; if in the vagina, it may cause considerable trouble for the baby and danger to others. Mothers should try to see that no one in the household, not even an employee, has active gonorrhea. If the mother is aware that anyone in the house has a discharge from the genital region, she should see that that person is examined by a doctor.

If the baby's eyes are inflamed, the doctor should be told.

Employing Healthy Maids

If the mother plans to have someone help her in the care of her baby, she should hire only a person who will not infect the baby. Before a helper is engaged, it is a good plan for the mother to have her examined by a doctor. The important things to guard against are diseases of the lungs, especially tuberculosis, and active gonorrhea or syphilis.

INOCULATION

Every baby should be inoculated against diphtheria and smallpox. Under certain circumstances a baby should be inoculated against typhoid fever. If the doctor recommends it a baby should be inoculated against whooping cough and tetanus (lockjaw).

At present preventive inoculations are not recommended for other diseases.

Protection Against Diphtheria

Every baby should be protected against diphtheria, which is a very serious disease in babies. The inoculation is simple and almost painless, and gives almost complete protection.

Immunization should be started when the baby is 9 months old. It is done by the injection of three doses of toxoid, 3 to 4 weeks apart.

Six months after the last dose the baby should be given a special test, called the Schick test, which will show whether the treatment has protected him against the disease. In the majority of cases the baby will have been protected, but in a few the test will show that he needs to have one or two more injections. A second Schick test

should be made a year later to make sure that the child is protected, and again when he is 6 years old, or sooner if an epidemic of diphtheria occurs.

If it is known that a child who has not been inoculated against diphtheria and who has not had this disease, comes near a person who has diphtheria, the mother should have the child seen by a doctor immediately.

Protection Against Smallpox

Every baby should be vaccinated against smallpox during his first year. Even though there is no smallpox in the community, exposure may occur at any time. Vaccination against smallpox is very simple and usually does not cause enough reaction in a baby to bother him.

Vaccination should be repeated when the child is 6 years old, or sooner if an epidemic of smallpox occurs.

Protection Against Typhoid

Typhoid fever is not common in babies, and in fact the number of cases of typhoid fever in persons of any age in the whole country is much less than it was some years ago. If a case of typhoid fever occurs in the neighborhood, however, especially close examination should be given to all sanitary arrangements; and if the source of contamination is not immediately found and removed, it is wise to have everyone in the family, including the baby, vaccinated against typhoid fever. This is done by giving three injections of the typhoid-fever vaccine, 2 to 4 weeks apart. The protection probably does not last longer than 2 years. If the contamination continues it is wise to give the injections every year in the spring.

If it is necessary to travel with the baby in places where the purity of the water is uncertain, ask your doctor whether the baby should be vaccinated against typhoid. Of course all drinking water for a baby should be boiled.

Prevention of Whooping Cough

Many doctors advise giving a vaccine to prevent whooping cough, which is a serious disease in a baby under 1 year. This vaccination does not give such sure protection against the disease as do the inoculations used to prevent diphtheria and smallpox, but many physicians believe the vaccine makes the whooping cough less severe even if it is not prevented. The vaccination can best be done between the ages of 6 and 9 months. It is given in three injections, usually a week apart.

Protection Against Tetanus

Tetanus, although rare, is a serious disease. It occurs sometimes when dirt—especially dirt containing manure—is ground into a wound. Dirt in a small, deep wound may be as dangerous as in a larger but less deep one.

If a baby suffers such a wound the doctor can usually protect him from tetanus by giving an injection of tetanus antitoxin. The antitoxin may make the baby sick, but this is less serious than the risk of tetanus.

If, later, it should be necessary to give tetanus antitoxin for another wound a reaction may follow that makes the baby sick. The physician will probably advise that the injection be given, but if he knows that antitoxin has been given previously he can take special precautions that may lessen the reaction.

Another way to prevent tetanus is to develop the baby's resistance in advance by injecting a substance called tetanus toxoid. If, later, a wound occurs, another dose of the toxoid is given. The

toxoid given *after* a wound is not effective unless the baby's resistance has been developed by previous injections.

Tetanus toxoid and diphtheria toxoid can be given in the same dose, so that the baby can be immunized against both diseases at one time.

Modification of Measles

Measles is a serious disease in a baby or a young child, and it is often wise to try to make an attack less severe. If a mother knows that her baby has been exposed to measles, she should take him to a doctor. The doctor may give the child some blood serum from a person who has recovered from measles. If the inoculation is given in the first 4 days after known exposure, the disease may be prevented, or the attack be made quite mild; this treatment merely prevents that one exposure from causing the disease, or at least from causing a severe attack of the disease. If the baby does not get measles from this exposure he will not be immune to the disease, but if he does get even a mild attack a lasting immunity may be expected.

Do not allow the baby to be exposed to measles (or to any other disease) with the idea that he is "sure to get it sometime." It is wise to ward it off as long as possible, for the younger the child the more serious it is likely to be.

If the baby has been exposed to any disease, consult your doctor.

Suggested Plan for Immunization

1. Have the baby vaccinated against smallpox at 3 months of age.

2. Have him vaccinated against whooping cough at 7 months (3 injections).

3. Have him immunized against diphtheria at 9 months (3 injections). Tetanus immunization may be given at the same time. Have a Schick test made 6 months to a year after the diphtheria immunization is given.

THE MOTHER'S HEALTH

Protection Against Deficiency Diseases

A baby whose mother eats the right foods during pregnancy and the nursing period will be better protected against the so-called deficiency diseases—scurvy, rickets, pellagra, and anemia—than a baby whose mother does not eat the right foods.

Protection Against Syphilis

Congenital syphilis is a preventable disease. With proper examination and treatment of the mother before and during her pregnancy, congenital syphilis would be entirely done away with. Every mother should have a blood test for syphilis as soon as she knows she is pregnant. If there is no clinic or laboratory in her community, the doctor can send a sample of the mother's blood to the laboratory of the State department of health. If the test shows that she has syphilis, intensive treatment for the disease should be begun at once and continued under the direction of her doctor or a clinic throughout her pregnancy. If she follows conscientiously the advice of her doctor she will in all probability give birth to a normal baby. If she is not treated, it is likely that the baby will be born dead or diseased. If the mother is known to have or to have had syphilis, whether or not she has been treated, the baby should be examined for syphilis soon after birth. Even though no evidence of syphilis is found he should be examined again when 2 or 3 months old and every 6 months for at least 2 years. If he has syphilis, treatment should be started immediately. (See p. 123.)

CHAPTER 19

The Premature Baby

A PREMATURE BABY is a baby born more than 2 weeks before the end of 9 months of pregnancy. Such a baby is usually not so well developed at birth as a full-term baby.

The successful rearing of a premature baby requires not only the advice of a doctor and the assistance and guidance of a nurse, but also intelligent and earnest cooperation by the mother, the father, and all the other members of the family. All these should work together from the baby's birth to provide for his welfare.

The doctor's directions will be aimed at keeping the baby warm, properly nourished, and protected from infection, and they should be carried out carefully. The instructions given here are intended to help the mother care for her baby in whatever way her own doctor directs. If these instructions differ from those of her doctor, the mother should realize that her doctor's instructions, based on his examination of her baby and his observation of that baby's behavior, growth, and development, are planned to meet her baby's individual needs.

Because a premature baby always excites special interest, the mother will receive much well-meant advice from neighbors and other persons, but she should disregard this advice and take that of the doctor. She should also be very strict in refusing to let visitors go near the baby, because even if they appear to be healthy they may carry infection to the baby that may be fatal to him.

It is well for the mother of a premature baby to realize that if her baby keeps well he has as good a chance as a full-term baby to develop normally. After he grows up he is likely to be as strong as if he had been born at the normal time.

A mother who, during pregnancy, places herself under a physician's care will be more likely to have a full-term baby than one who goes without such care. Some causes of premature birth are unavoidable, however, and, in spite of every effort, a certain number of babies are born prematurely.

Most premature babies are born unexpectedly, and it is wise for every expectant mother to have all equipment ready about 2 months before the baby is due.

The earlier a baby is born, the more difficult it is to care for him. A baby born 2 or 3 weeks before the expected date of his birth may be quite strong and little different from a full-term baby, but a baby born 4 or more weeks early may be very small and difficult to save. Occasionally a baby born at full term is exceptionally small and feeble and must be cared for like a premature baby. *All babies weighing less than 5½ pounds at birth should be treated as if premature.*

CARE IMMEDIATELY AFTER BIRTH

It is of the utmost importance to give a premature baby proper care during and *immediately after* birth. He needs care by a doctor and a nurse who know

what to do and who have the equipment needed.

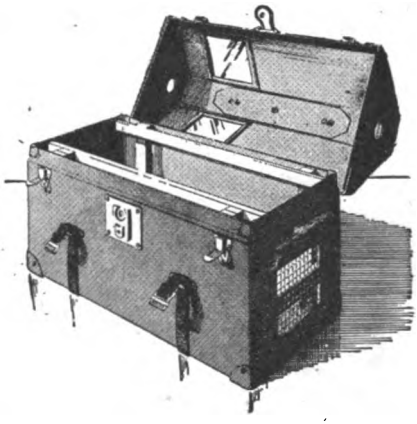
As soon as the baby is born he should be placed in a soft, warm blanket wrapped loosely about him. The doctor or the nurse will, if necessary, remove mucus or other fluid from his mouth and throat by means of a rubber suction bulb (ear syringe) or by a small catheter attached to a glass syringe. When it is certain that the baby is breathing well he may be placed, with the blanket still wrapped loosely around him, in an incubator or some kind of heated bed that can be kept at a temperature of about 80° to 90° F. The cord can then be dressed and drops put into the eyes to prevent infection.

If the baby is born at home the decision must be made whether he is to be cared for at home or taken to a hospital.

Premature babies that weigh more than 4 pounds and are vigorous can usually be taken care of satisfactorily at home if the home conditions are favorable and certain precautions are taken. Some smaller babies also do well at home; in fact, they are often cared for best at home unless a hospital suitably equipped for the care of such babies is available. If, however, the baby is feeble and it is difficult to make him breathe, very special care is needed, which usually can best be had in a hospital.

It is best to have the doctor or the nurse who has seen the baby advise the family whether his condition is good enough to permit the journey to the hospital and how he should be transported. A public-health nurse or a visiting nurse may be available to stay with the baby during the trip.

The baby should not be taken to the hospital until his breathing is well enough established for such a trip to be safe. Great care should be taken to keep him warm during the trip, as chilling at this time decreases the chances of saving his life. To prevent him from losing any of his body heat he should be wrapped in a soft, clean blanket which has been warmed, and he should be carried in a basket lined with warm-water bottles (115° F.). To prevent burns, a folded blanket or towel



should be placed between the baby and the bottles. The doctor or nurse may be able to provide as a carrier a special bag that is easier and safer to use than a basket. One type of carrier is shown in the accompanying sketch.

GENERAL CARE

A doctor, preferably one trained in care of babies, should see the baby *at birth and at regular and frequent intervals thereafter,* and his directions should be followed carefully. If the services of a nurse, preferably one who has had training in the care of premature infants, can be obtained, it will be a great help to the mother. Skilled nursing care can usually be obtained from a public-health nurse. If more hours of nursing care are needed than this nurse can give, she can advise the

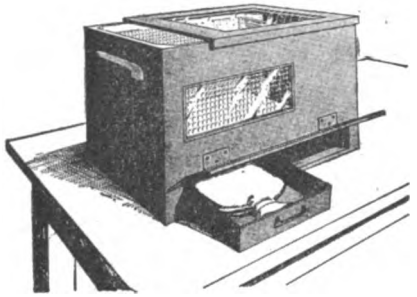
mother how to get in touch with another nurse.

In caring for a premature baby three main aims must be kept in mind:

1. To keep the baby warm.
2. To protect him from infections.
3. To feed him properly.

Keeping the Baby Warm

At birth a baby loses the protection that he has had inside his mother's body (in the uterus) where he is surrounded by fluid that is kept at an even temperature by the mother's body. A baby born at term is better prepared to become adjusted readily to living outside his mother's body than is the premature baby. The baby that is prematurely born must be protected from changes in the environment, even slight changes in temperature. The amount of heat necessary to keep the premature baby warm will depend upon his size, development, and vigor. The more premature and the smaller he is the more difficult it will be to regulate his body temperature properly. The baby's body temperature, taken by rectum two or three times a day, should be about 97° to 99° F. An even temperature as low as 97° F. is probably better for the baby than an uneven temperature that goes higher. The temperature of the room and of the bed should be kept as constant as possible.



Bed heated by hot-water bottles.

The Premature Baby's Room.

It is easier to keep the premature baby's room warm and at an even temperature if it is a small room. One window, or preferably two, will allow for sunlight, and for ventilation by opening at the top. The baby's bed should be so placed that the air from the window will not blow on the baby. A thermometer should be hung on the wall over the baby's bed but not near a radiator or a window. Frequent readings of the thermometer should be made and recorded on a chart so placed that it is easy to read. The temperature of the room should be maintained evenly at a point between 75° and 80° F. day and night.

Heated Beds.

In addition to a warm room some type of heated bed is usually needed by a premature baby. A thermometer should be placed on the mattress, beside the baby and under the covering if any covering is used. The temperature of the air inside the bed, at the mattress level, should be kept as even as possible at a point to be decided on by the doctor (usually from 80° to 90° F.), depending on the size, vigor, and body temperature of the baby. It may be well to increase the moisture in the air by placing a shallow pan of water inside the bed near the source of heat.

A simple type of heated bed (see sketch) is a box with a basket inside that is placed on blocks. The box has a sliding cover with a window in it. An asbestos pad, the size of the bottom of the basket, is placed under the basket, over the source of heat, so that there will be no danger of burning the baby. Heat is obtained from hot-water bottles of rubber or metal, or heated bricks or bags of heated sand, placed in pans on

the floor of the box and under the basket. Bricks or bags of sand or hot-water bottles should not be too hot to hold in the bare hands. The temperature inside the bed should be kept constant and it is best therefore to change one hot bag or brick at a time, so as not to cool the bed.

If the house is wired for electricity an electrically heated incubator, so constructed that the temperature can be regulated automatically, can be used. The moisture (relative humidity) inside such a bed can be increased by placing a pan of water near the source of heat (an electric-light bulb). Many State health departments have such incubators to lend.

If an *electrically heated* incubator is to be used the doctor will advise you with regard to the type to be selected, and the doctor and nurse will teach you how to use it. The following precautions should be taken:

1. A baby in an incubator should be observed often to see that he is all right.

2. The thermometer inside the incubator should be looked at often to see that the temperature of the incubator is properly regulated.

3. The amount of heat should be regulated by a thermostat so that the bed cannot get too hot (above 90° F.) and so that the temperature at the mattress level will vary as little as possible, preferably not more than 2° F.

4. Electric-light bulbs should be protected by wire guards and should be so placed that the baby cannot come in contact with the guards.

5. The incubator must be large enough for the baby to move his arms and legs freely without touching any heating unit or other mechanism. It should be at least 13 inches wide, 23 inches long, and 9 inches high (above the mattress level).

6. Never exclude air completely from an incubator.

In warm weather it may not be necessary to heat the incubator; but there is an advantage in keeping the baby in it, for it protects him from drafts and from infection due to contact with persons who may come into the room.

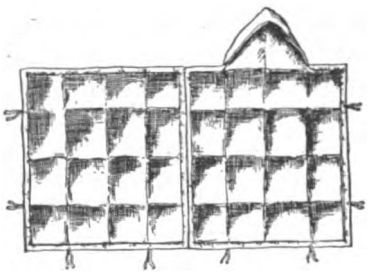
Clothing.

The premature baby's clothing should be light and loose, as it is especially important that such a baby have plenty of opportunity to move his arms and legs freely. Immediately after birth the baby should be placed in a soft, warm blanket and the blanket folded loosely about him. He should be kept in the blanket while the care necessary at this time is given. For temporary use a wadded jacket made of gauze, lined with cotton batting, may be used. (See p. 110.) Later a one-piece lightweight flannel gown may be substituted for the jacket.

The usual type of diaper is not suitable for the premature baby. A small square of absorbent cotton covered with gauze, or some other type of disposable pad, can be laid under the baby to serve as a diaper—*not folded between the legs*. These pads can be easily changed when they become soiled.

Care of the Skin

The premature baby's skin is very tender. After birth the folds of the skin may be wiped gently with soft, dry gauze or cotton. It is best not to bathe the baby with water or even with oil during the first 12 to 24 hours after birth. He need not be bathed even for a week or 10 days or longer. After the first day the folds under the arms and between the legs may be patted or wiped very gently with soft gauze or



cotton moistened with a little warm mineral oil. When using the oil pour a small amount into a clean dish or cup; if any is left over it should be thrown away. When the pad used for a diaper is changed the parts of the body that are soiled may be wiped with oil.

When the baby is older and more vigorous and when he no longer needs to be kept in an incubator he may be bathed just as any young baby is.

Protection From Infection

Premature babies are very susceptible to infection, especially skin infections and colds. They have very little resistance to infection, and a cold may be very serious—even fatal—to a premature baby.

Infection is carried to a premature baby from the hands of the person caring for him or from the nose and throat of persons coming near him, or from unboiled milk or water. Infection is also carried by flies and other insects.

To protect the baby from infection observe the following rules carefully:

Only one person in the household should care for a premature baby, and no one except the person who cares for the baby regularly should go near him.

While caring for a premature baby the mother or nurse should wear a gown that she keeps especially for this purpose.

The person who cares for the premature baby should wash the hands before handling the baby each time; it is very important to wash the hands *before* and *after* changing the diaper pad and just before feeding the baby.

No one with any infectious condition, even a slight cold, should be allowed to take care of, or go near, a premature baby. Visitors, especially young children, should never be permitted in a premature baby's room.

Flies and other insects should be kept away from a premature baby. If the house is not well screened a netting should be kept over the baby's bed.

The premature baby's tender skin may become infected if rubbed. The parts of his body that become soiled should be cleaned by gentle wiping with soft gauze or cotton moistened with oil.

Just as soon as the premature baby's bedding and clothing become wet or soiled they should be changed without taking the baby out of the bed.

Sleep

The premature baby in the early weeks of life will sleep most of the day and night and will usually have to be wakened for feeding. It is important that he be kept awake for the feeding so that he will swallow well. If he cannot be roused the doctor should be notified immediately.

Bowel Movements

The premature baby passes dark, sticky, green material called meconium on the first 2 days of life, just as does the full-term baby. During the next few days the movements will become brown, then yellow. Most premature babies have four to six bowel movements a day, which are small and pasty. If the baby has frequent movements (more than six a day) or loose movements, even if not frequent, or if a

bowel movement contains blood, the doctor should be notified immediately. Blood in a bowel movement may be red or dark brown.

FEEDING

The doctor will advise the mother in regard to the baby's feeding. The instructions given here are to guide the mother before the doctor comes and to help her follow his directions.

The premature baby does not need food or water for about 12 hours after birth, but after this a sufficient supply of fluid is essential. The amount given daily will at first be small; it may be increased gradually until he can take daily a total amount of fluid (milk and water) equal to about one-eighth or one-sixth of his body weight (about 2 ounces for each pound of body weight). (See p. 113.)

The milk and the water should be given in the way best suited to the baby's condition. Most premature babies are not able to suck well, and therefore they are fed with a medicine dropper. Some babies are so weak that feeding must be given with a stomach tube (so-called catheter feeding). Only a trained person should be allowed to do this.

It is wise to delay putting a premature baby to the breast until his breathing and swallowing are well established and until he is strong enough not to be overtired by nursing. If the baby cannot nurse at the breast, or is too weak to draw milk from the nipple of a bottle, the mother's milk should be expressed by hand or by means of a breast pump and fed to the baby slowly with a medicine dropper. Water also may be given, slowly, by medicine dropper. The end of the glass medicine dropper should be covered with a piece of soft-rubber tubing to prevent injury to the baby's mouth. The rubber tubing should extend about a quarter of an inch beyond the end of the glass tube.

Any utensil that is to touch the baby's food or water must be sterilized by boiling for 5 minutes before it is used, and carefully washed with soap and water after it is used. This includes not only the medicine dropper and rubber tip but also such things as the breast pump, the cup or glass used to hold milk or water, the funnel and strainer, and all nursing bottles, bottle caps, and rubber nipples.

To give water or milk raise the baby's head and shoulders and squeeze the water or milk slowly from the dropper while watching to be sure that the baby is able to swallow. Gentle pulls on the dropper will often stimulate him to suck and swallow. Care must be taken not to give the milk or water faster than he is able to swallow it.

Care should be taken not to overtire the baby during feeding. The feeding should require no more than 20 minutes. Very small premature babies, because they can take only small amounts of milk at any one feeding, may have to be fed every 2 hours. Larger infants may be fed at 3-hour or even at 4-hour intervals.

Water

The premature baby should not be given water until he is about 12 hours old. The water that the baby will need during each 24 hours should be boiled and cooled and should be kept in a covered glass jar that has been boiled for 5 minutes to make it sterile.

It is best to begin with very small amounts of water, about one-half to 1 teaspoonful, given with a medicine dropper every 2 to 3 hours, alternating with the feedings. A record should be

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kept of the amount of water taken. If the baby is too weak to take the necessary amount of fluid by mouth the doctor may inject fluid, such as salt solution, under the skin as often as he considers necessary.

During the period when the baby is receiving very small feedings of breast milk, special care must be taken to give him enough boiled water. As he takes more milk he may take less water, but it is well to offer water to him between feedings even when he is strong enough to take an adequate amount of milk.

Milk

Milk feedings may usually be begun after the baby is 18 hours old.

Breast Milk.

Breast milk is the best food for the premature baby. At the end of 12 hours the first efforts should be made to empty the mother's breasts. The colostrum—and the milk when it comes—should be expressed at regular intervals and given to the baby. As it may be some weeks before the baby is able to draw even small amounts of milk from the breast, it will be necessary for the mother to empty her breasts at regular intervals, not only to obtain milk for the baby during the early weeks of life but to keep up the milk flow until the baby is strong enough to nurse. (For expression of milk see pp. 68–69.)

Cow's Milk.

If breast milk cannot be obtained, cow's-milk feeding will become necessary. Various milk mixtures have been given to premature babies with success. The doctor will order the mixture best suited to the baby's individual needs.

If it is not possible to get a doctor's advice at once, one of the following milk mixtures may be used temporarily:

Evaporated milk, 3 ounces.
Water, 6 ounces.
Granulated sugar or corn sirup, 1 level tablespoonful.

or

Half-skimmed cow's milk, 8 ounces.
Water, 2 ounces.
Granulated sugar or corn sirup, 1 level tablespoonful.

The mixture should be boiled. (Suggestions for the preparation of milk mixture are given on pp. 76–84.)

Half-skimmed cow's milk is obtained by removing half the cream from the top of the bottle. The milk and remaining cream should be thoroughly mixed.

The doctor may order that some form of sugar be used other than granulated sugar or corn sirup.

Vitamins

The premature baby needs, in addition to milk, whether breast milk or cow's milk, vitamins that are important for growth and development.

A premature baby needs vitamin D even more than a full-term baby because he is growing more rapidly. For promotion of normal growth and prevention of rickets he should receive about two or three times as much vitamin D as the full-term baby, or about 1,600 to 2,400 international units a day. Vitamin D is contained in fish-liver oils such as cod-liver oil, but *cod-liver oil should not be given to premature infants who are small and do not swallow well.* Vitamin D should be given to the premature baby in a concentrated form and one that contains vitamin A also. It should be begun before the end of the first week of life.

A premature baby needs to have vitamin C also. This is the vitamin contained in orange juice. In order to give the proper amount to meet the needs

SUGGESTED DAILY FEEDING SCHEDULE FOR PREMATURE BABIES

	Baby weighing less than 3½ lbs.				*Baby weighing 3½—4½ lbs.*				*Baby weighing 4½—5½ lbs.*			
	Breast milk		Boiled water		Breast milk		Boiled water		Breast milk		Boiled water	
	Number of feedings	Amount at each feeding	Number of times given	Amount each time	Number of feedings	Amount at each feeding	Number of times given	Amount each time	Number of feedings	Amount at each feeding	Number of times given	Amount each time
		Teaspoonfuls [1]		*Teaspoonfuls* [1]		*Teaspoonfuls* [1]		*Teaspoonfuls* [1]		*Teaspoonfuls* [1]		*Teaspoonfuls* [1]
1st 12 hours							2	½			3	1
13th hour				½				½				1
16th hour				½				½–1				1
18th hour		½				½				1		
20th hour				½				½–1				1–2
22d hour		½				½–1				1 –2		
2d day	8	½–2	6	1 –1½	8	1 –3	6	1 –2	8	2 –3	6	2–3
3d day	8	1 –2½	6	1½–2	8	2 –3½	6	2 –2½	8	3 –4	6	2–4
4th day	8	1½–3	6	2 –2½	8	2½–4	6	2½–3½	8	4 –6	6	3–4
5th–7th day	8	2 –4	6	2½–3	8	3 –5	6	3½–4	8	5 –8	6	4
8th–10th day	8	3 –5	6	2 –3	8	4 –6	6	3	8	6 –9	6	3
11th–14th day	8	3½–5½	6	2 –3	8	5 –7	4	3	8	6 –9	6	3
						Ounces		*Ounces*		*Ounces*		*Ounces*
15th–17th day	8	4 –6	6	2 –3	8	1 –1¼	3	½	8	1¼–1¾	3	½
18th–21st day	8	4½–6	6	2 –3	8	1 –1½	3	½	8 or 6	1½–1¾ or 2 –2½	3	½

NOTE.—The schedule is arranged so that milk is given every 3 hours, at 3, 6, 9, and 12 o'clock. Water is given midway between feedings except at 1:30 a. m. and 4:30 a. m. It may be necessary to feed very small or weak infants every 2 hours. Increases in the feeding should be made gradually, not more than ½ teaspoonful at a feeding. For infants weighing less than 2½ pounds the increase should not be more than ¼ teaspoonful at a feeding. When the baby is taking 2½ to 2¾ ounces of breast milk per pound he is receiving as much as is usually necessary for gain in weight. Further increase in feeding is made as the baby gains weight and therefore requires more food to supply 2½ to 2¾ ounces per pound. After the baby has begun to gain satisfactorily and is taking his feedings well, the interval between feedings may be increased and more milk given at each feeding.

[1] This refers to the ordinary household teaspoon, which contains 5 cubic centimeters.

of the premature baby a concentrated form of vitamin C, ascorbic acid, should be given (one 25-mg. tablet a day, dissolved in water), beginning when the baby is 2 weeks old. As the premature baby grows larger and more vigorous, the amount of ascorbic acid may be increased, or orange juice may be given in place of it. The amount of orange juice will be the same as for the full-term baby.

Iron

When the premature baby is about a month old the doctor will prescribe some preparation of iron to prevent him from becoming anemic.

As the premature baby grows older the same foods should be added to his diet as are added to the diet of the full-term baby. (See p. 87.)

GAIN IN WEIGHT

The premature baby, like the full-term baby, usually loses some weight in the first 2 or 3 days after birth. He begins to take food when he is about 18 hours old, and when he is 4 or 5 days old he will usually be able to take enough food to prevent further loss of weight. Premature babies usually regain the birth weight by the second or third week.

The baby should be weighed at least twice a week. The weighings should be at about the same time of day, and the weight should be written down and shown to the doctor. Great care should be taken not to chill the baby during the weighing. He can be weighed in his jacket or gown or wrapped in a warmed blanket. Then the covering can be weighed separately and its weight subtracted from the total weight of the baby and the covering.

The baby may not gain weight every day, and some days he may lose weight, but week by week he should gain steadily if he is well and is properly fed.

OUTDOOR LIFE

Since changes in temperature are to be avoided for the premature baby, he should not be taken outdoors while very small. The age at which he may be taken outdoors varies with the size and degree of prematurity of the baby and with the weather and the season of the year. After he has attained the size and vigor of a 2-month-old full-term baby, he may be taken outdoors just as a full-term baby of this size would be.

Sun baths cannot be given to small premature babies. Special effort must be made to give them some form of tested vitamin D. When they grow larger and more vigorous, sun baths can be given just as to full-term babies.

HEALTH EXAMINATIONS

The mother should make arrangements to have the baby seen by a doctor at regular intervals. The doctor will examine the baby and advise the mother in regard to his feeding and general care. The examination will include an appraisal of the baby's physical and mental development.

LATER DEVELOPMENT

As the premature infant grows older he should gradually become more and more like a full-term baby. Though small, he should have good color, his muscles should be firm, and he should gradually become active and alert. He may be slower than a full-term baby in learning to do some things like holding up his head and sitting up. If he is protected from infection and gets the proper food and care he will catch up to the full-term baby in course of time. The time that this will take will depend on how many weeks before term he was born.

CHAPTER 20

The Sick Baby

CARE OF SICK BABY

EVERY MOTHER has the responsibility of deciding whether her baby is sick and whether she should call the doctor. She therefore needs to know the signs of sickness in babies. A mother can see that her baby is sick by noticing certain changes in him. A change that is a sign of sickness may develop slowly over a long period, or it may seem to take place almost before the mother's eyes. If a baby is being seen regularly by a doctor, the doctor will probably notice any slowly developing signs of disease before the baby becomes very sick. But a change that is a sign of a suddenly occurring illness is more likely to be noticed by the baby's mother than by anyone else. The mother knows her baby well, and it is she who knows, for example, whether he is more irritable than usual, whether he has eaten less than usual, whether he has been more restless in his sleep than usual.

Early Signs of Illness

Any change from the baby's usual appearance or behavior may mean that something is wrong. The mother should pay special attention to any of the following, which may be a sign of illness:

1. *Irritability*—whimpering and crying by a baby who usually plays and is happy.

2. *Drowsiness*—wanting to sleep more than usual, especially at a time when he usually plays.

3. *Restlessness*—waking often and crying by a baby who usually sleeps well.

4. *Fever*—hot and dry skin, probably indicating fever. (For discussion of temperature see pp. 117–118.)

5. *Loss of appetite*—refusal to take milk at the usual time. This is different from being slow to try a new food.

6. *Vomiting*—sudden throwing up of the previous feeding or a large part of it, or of water. This must be distinguished from spitting up, which many babies do when they swallow some air with their milk. (See p. 95. Vomiting may occur right after a feeding or several hours later. It may mean a digestive disturbance or be an early symptom of an infectious disease.

7. *Diarrhea*—a sudden increase in the number of stools, especially if they are loose and watery. This may be an early sign of an infectious disease or of a disease of the bowels. If pus, blood, or an unusually larger amount of mucus is in the stools the doctor should be called.

8. *Pain.*—Crying or irritability may be a sign of pain. A mother soon learns to know whether a baby's cry means that he is in pain. She can sometimes tell where the pain is. If he cries and pulls his legs up over his abdomen, he may have pain in the abdomen. If he holds his legs or arms still, he may have pain in them. Pain in the ear is sometimes shown by constant turning of the head or by pulling at the ear. Often the mother cannot tell where the pain is, as the baby may show he is in pain only by sharp crying and general irritability. If this continues a doctor should be called.

9. *Running nose.*—A running nose in a baby, almost always a sign of illness, may be the beginning of a cold or of some other communicable disease, such as measles.

10. *Cough.*—A cough in a baby is more likely to be a sign of illness than in a grown person.

11. *Hoarseness*—a change in the baby's voice or in the sound of his cry. This may be the first sign of diphtheria. A doctor should be called.

12. *Rash*—a breaking out on the baby skin.

13. *Convulsions.*—Convulsions, spasms, spells, or twitching of the face or arms or legs may be a very early sign of some serious disease in a baby. Convulsions sometimes occur suddenly in an apparently healthy baby and disappear as suddenly. Even though such a baby seems quite well afterward, a doctor should be called so that he may find, if pos-

sible, the cause of the convulsion and decide what treatment, if any, is needed.

14. *Inability to move a part of the body*—a stiff neck or stiffness in any part of the baby's body.

If You Think Your Baby Is Ill

If your baby has any one of the following signs of disease, call the doctor immediately, by telephone if possible:

Blood in the stools.
Convulsions.
Hoarseness.

Even if the baby does not seem very ill, these are early signs of serious disease, and there should be no delay in calling the doctor.

If the baby has any of the 14 signs of illness listed, the mother should take his temperature. (See p. 117 for how to take the temperature.) If his temperature is found to be above 101° F., she should put him to bed and notify the doctor.

Before the Doctor Comes

Until the doctor can be reached there are a few things it is wise to do for a sick baby.

1. Put him in a bed in a quiet, cool place where he can easily fall asleep.
2. Keep other children away from him.
3. If the baby is vomiting or having diarrhea, stop all food but offer him small amounts of boiled water frequently. If he continues to vomit stop giving even water for a while. At the end of 2 hours if the vomiting has stopped, try giving him some boiled water, and continue giving it to him frequently so long as he does not vomit it.
4. If the baby is neither vomiting nor having diarrhea give him as much or as little as he wishes of his regular feeding of milk. Never try to make a sick baby eat.
5. Save the baby's stools for the doctor to see.
6. Take his temperature every 4 hours.
7. Keep a record on paper of—
   a. The baby's temperature each time it is taken.
   b. The times he passes stool.
   c. The times he urinates.
   d. The times he vomits and the amount vomited.
   e. Anything else you think important.
8. Do not give medicine.

A baby who is sick usually lies quietly in bed, and it may be necessary to turn him over occasionally. On the other hand, he may be restless, and gently rocking his bed may quiet him.

General Care of a Sick Baby

The doctor's orders should be carried out carefully and exactly. The sick baby should be kept in bed in a cool, quiet, well-ventilated room and should be allowed to sleep or rest, undisturbed as much as possible. The sick-room should not be a gathering place for the family or the neighbors. Whether or not a contagious disease is suspected, a sick baby should be kept away from other children.

The mother should try to protect the other members of the family from infection. She should wash her hands thoroughly before and after caring for the sick baby. Until the doctor is sure that the baby has no communicable disease, everything used in the care of the baby, such as towels, washcloths, dishes, and toilet utensils, should be kept separate. They should be sterilized with boiling water before any other member of the family uses them. One sick person in the family is enough. Avoid spreading disease.

The baby should be kept in bed as long as he has a temperature higher than 99.6°. If his illness has been mild it is sufficient to keep him in bed for 24 hours after his temperature has become normal (98.6° to 99.6° F.) and has remained normal for 24 hours. If the illness has been either severe or prolonged the baby must be kept in bed for at least 3 days—better, a whole week—after his temperature has become normal and remained normal for 24 hours. If this precaution is always taken the serious aftereffects of many diseases can be avoided.

Do not let a sick baby cry for a long time. It may be necessary to hold him, to rock him, to sing to him, in order to quiet his restlessness. As he gets better he may be left alone for longer periods. Quiet and rest will speed recovery. Do not give a baby extra attention longer than he really needs it. While he is sick, however, he may need comforting almost as much as he needs medicine.

Cleanliness.

Keep a sick baby's body very clean. Give him a warm sponge bath once or even twice a day. Take care that he is not chilled during the bath; he should not be completely uncovered unless the room is warm.

If the baby has diarrhea his buttocks should be washed carefully after each bowel movement and not merely wiped. The stool produced during diarrhea is more irritating than normal stool, and if any of it is left on the skin, the buttocks are likely to become irritated and inflamed.

Elimination.

If a sick baby is not taking much food his bowels may not move so frequently as usual. If there has been no bowel movement for 48 hours, or if the abdomen is distended, or if the baby seems to have pain in the abdomen, an enema of warm water may be given. (See p. 118.) *Never* give a cathartic without the doctor's advice. It is sometimes very dangerous to give a cathartic, especially if there is pain or distention of the abdomen.

If the baby urinates less frequently than usual, more water should be given him to drink unless he is vomiting everything that he eats or drinks.

Food and Water.

A sick baby seldom wants to eat as much as he does when he is well. Very often a sick baby is unable to digest the food he was taking when he was well. If the baby is vomiting or having diarrhea it is best to stop all food for a time. The doctor should be consulted, if possible, before starting food again. If it is not possible to reach the doctor, reduced feedings may be given as soon as the vomiting has stopped. Reduced feedings may be given as follows:

If the baby is breast-fed it is wise to allow him to nurse for only half as long as usual and, immediately after the feeding, to give him as much boiled water as he will take. If the baby is bottle-fed the milk mixture may be diluted with an equal amount of boiled water and he may be allowed to take as much as he wishes. After the acute stage of the illness is past, more and more food may be given the baby until he is getting his regular feedings—milk and whatever other foods he was taking before he became ill.

In illness without any digestive disturbance the baby should have his usual milk feedings, and he may have solid foods, such as cereal, vegetable, egg, and the pulp of stewed fruits, if he is already used to them, unless the doctor orders a special diet.

A sick baby needs water, especially if his temperature is high. Water that has been boiled and cooled should be offered often while he is awake, possibly every hour. The amount taken in 24 hours should be written down. Unless there is digestive disturbance, orange juice may be added to the water if the baby will take more water this way. If he is vomiting, it is sometimes necessary to stop giving water for a time, but it should be given again as soon as he can keep it down. It may be started in a small amount such as a teaspoonful and increased gradually.

Taking a Baby's Temperature.

Every mother should learn how to take a baby's temperature. It is a good idea to buy a thermometer and learn how to use it when the baby is well. Then if he should get sick the mother will be able to take his temperature with the least possible disturbance to him.

Buy a rectal thermometer (one with a thick bulb). Ask the doctor, the druggist, or public-health nurse to show you how to read it and how to shake down the mercury.

Before taking the baby's temperature, read the thermometer and be sure the mercury is well below the "normal" mark. Smear the bulb of the thermometer with petroleum jelly or cold cream. Place the baby downward on your lap, separate the buttocks with one hand and with the other put the bulb end of the thermometer about an inch into the rectum (the place where the stool comes from) and leave it there for 3 minutes by the clock. Keep the baby quiet and hold the legs firmly so that the thermometer will not break. Do not leave the baby nor let go of the thermometer while it is in the rectum. At the end of 3 minutes take the thermometer out and put the baby back in his crib. Read the thermometer and write down the baby's temperature and the time of day it was taken.

Wipe off the thermometer, wash it thoroughly with *cold* soapy water (hot water will break it), and finally rinse it and put it away.

Meaning of the Baby's Temperature.

A baby's temperature normally ranges from 98.6° to 99.6° F. If it is 101° F. or higher, the doctor should be notified. A baby is more likely than an adult to have fever when he is ill, and when he has fever it is likely to be higher than that of an adult. A rise in temperature frequently accompanies even a slight upset. A daily rise in temperature, even if slight, that lasts a long time is often just as important a symptom as a higher temperature

that lasts a short time. It may be even more important. A baby who is sick may have fever at any time of the day or night, but it is likely to be higher in the evening than in the morning.

After a baby has been sick for some time his temperature in the morning may be subnormal; that is, below 98.6° F. When this occurs the baby needs special care to keep him from being overtired.

Giving an Enema.

For an enema, use a bulb syringe with a soft-rubber tip holding 2 to 3 ounces of water. Put one-half teaspoonful of salt into a glassful of warm water. To fill the syringe, put the tip of it into the glass of slightly salty water, squeeze the bulb while holding the tip under water; then release it and it will fill by suction. Let the baby lie on his back across your lap or on a table with the buttocks somewhat raised by a folded towel under his hips. (This position will cause the water to run up into the bowel more readily, and the towel will catch any drip.) Grease the tip of the syringe with petroleum jelly. Lift the baby's legs with the left hand and with the right put the tip into the rectum for about an inch and slowly squeeze 2 or 3 ounces of the water from the bulb. If gently and slowly done, this causes the baby little or no discomfort, though if he is badly constipated the starting of the bowel movement may be somewhat painful.

When the water has been put in, take out the syringe and hold the buttocks together for a few minutes to keep the water in before placing the baby on the chamber. The water sometimes comes out as the syringe is taken out and therefore the mother's clothing should be well protected. If the first enema does not bring a bowel movement, give another one.

Occasionally the water does not come out. If this happens do not worry. The water will do no harm.

A soap stick or other suppository may be used instead of an enema. Neither enemas nor suppositories should be used over long periods, as they may irritate the rectum.

Keeping a Record of Illnesses

Keep a record on paper of what happens when your baby is sick. Such a record is a great help to the doctor. The record will be different with each kind of sickness.

COMMON DISORDERS

Heat Rash or Prickly Heat

Heat rash may appear either in summer or in winter; it is more frequent during hot weather. It is usually caused by excessive perspiration, and this may be due to too warm clothing. Fine red spots usually come out first on the neck or the chest and may spread to almost the entire body. The rash may make the baby restless and irritable.

The parts affected should be sponged frequently and dried very thoroughly. Powdering with bicarbonate of soda or starch often reduces the itching. Using light clothing is helpful. Soft muslin or old linen next to the skin is better than wool or any rough material.

Diaper Rash

A rash caused by irritation of the skin by urine or by the wet diaper itself may appear on the baby's buttocks. This is called diaper rash. Sometimes it is due to soap left in the diaper; sometimes to the presence of ammonia in the diaper. (For "Care of diapers" see pp. 15–16.) Leaving on a wet diaper or failing to clean the buttocks after stool or urine has been passed may cause the rash. Rubber pants may have added to the trouble by causing excessive perspiration.

The parts of the baby's body where the rash appears should be kept absolutely clean and dry. Bran instead of soap may be used in the water for bathing, or mineral oil instead of water may be used for cleaning the irritated skin. The buttocks may be wiped with a little oil after they are cleaned.

Chafing

When a baby's skin is chafed, as when folds of the skin are rubbed together or when parts of the skin are rubbed by clothing, a rash that looks like prickly heat sometimes occurs. It is more apt to occur in fat babies than in thin ones. It is treated like heat rash.

Eczema

A variety of skin disorders common in infancy are grouped under the general name of eczema. It is a roughness of the skin, usually accompanied by itching, which appears most often on the face but sometimes on other parts of the body. Certain babies show a tendency to eczema at birth. It may occur in either

breast-fed or bottle-fed babies. The cure is frequently a long, slow process. Any baby with eczema should be under the care of the doctor, who will regulate the diet and direct the local treatment. Eczema may come and go, but it is always increased by dirt and scratching.

In general, it is well to use oil instead of water in bathing a baby that has eczema. To prevent the baby from scratching his face, cuffs or tubes made of cardboard or other stiff material that prevents the elbows from bending may be fastened to his sleeves.

Impetigo

Impetigo is a contagious skin infection. It begins with one or more papules (pimples) topped by small blisters that contain clear or yellowish fluid. In a few days these dry and form a crust. If not treated the condition may spread over the body and last for several weeks, but with proper treatment it usually clears up in a few days. A doctor should be consulted. Great care should be taken to keep the baby away from any child who has this disease.

If a baby has impetigo, his nails should be kept cut short and scrubbed with a nail brush and soap and water. Great care should be taken to prevent scratching. Scratching of the skin infected with scabies may cause impetigo also, and the two conditions are difficult to treat when combined.

Scabies (The Itch)

Scabies, commonly called "the itch," is a skin infection caused by a mite that burrows under the skin. This results in a fine red eruption and severe itching. Scabies is always contracted from some person who has it. It is easily spread, and if any person in the family has it, prompt treatment is necessary to prevent others from getting it. The doctor should be consulted about treatment. All bedclothes and clothing should be boiled or baked daily until all signs of the infection have disappeared.

Colds[1]

Colds are contagious, and all babies should be kept away from anyone who has a cold. What is "only a cold" in an adult may develop into bronchitis or pneumonia in a baby. A cold often causes earache and "running ear."

A baby with a cold should be kept away from other children. A number of contagious diseases besides colds begin with sore throat or a running nose, and any baby with either of these symptoms should be put in a room by himself, away from other children.

Rest in bed is an essential part of the treatment of any cold. The temperature in the room should be kept even day and night, at 65° to 70° F., and the baby should be protected from drafts.

Colds in the head cause difficulty in breathing and nursing. When the baby's head is stuffed up or when he is coughing it may be helpful to let him breathe air with steam in it. This may be done by placing him in a small room in which water is boiling, or a bathroom with hot water running. Letting him breathe steamy air for 10 to 15 minutes three to four times a day will as a rule make him more comfortable. If this is done before a feeding it may relieve the stuffed-up feeling in his head, so that he can take his food more easily. Of course, great care must be taken to avoid burning or scalding him.

The doctor may order some drops to be put into the baby's nose with a medicine dropper, which will shrink the lining of the nose so that breathing will be easier. Do not put mineral oil or nose drops that are oily into the baby's nose. Do not put any nose drops or anything else into a baby's nose without the advice of the doctor.

If the baby's nose is running, care must be taken that the skin under the nose does not become inflamed. Try to keep the skin dry by wiping it with a soft old handkerchief, or better still with a soft paper tissue, which is to be discarded after use. Sometimes a little cold cream smeared under the nose is helpful; it prevents the watery discharge from getting on the skin.

If the baby screams and puts his hands to the side of his head and rolls his head from side to side or pulls at his ear, he may have earache. Warm compresses or a well-wrapped hot-water bag may relieve the pain. If a doctor's advice cannot be obtained soon, a few drops of warm (not hot) mineral oil may be put into the ear. Nothing else should be put into the ear except by a doctor's order.

If a baby has "snuffles" at birth or within the first few weeks after birth a blood test should be made by a doctor to determine whether the condition is due to syphilis.

[1] For prevention of colds see p. 102.

Croup

There are two kinds of croup, the simple spasmodic type and the severe type which is really laryngitis. Both kinds must be taken seriously, for it is often impossible at the beginning to tell them apart. Simple spasmodic croup is not dangerous, but the other type is dangerous and requires a doctor's immediate care. Whenever a baby's cry or voice becomes hoarse, or weak and husky, a doctor should be called at once, so that he may treat him and give diphtheria antitoxin if he thinks that the laryngitis may be due to diphtheria.

Simple Spasmodic Croup

An attack of simple spasmodic croup usually comes on suddenly between bedtime and midnight, when a baby who went to bed apparently well wakes up with harsh, noisy breathing or a dry, barking cough and some difficulty in breathing. The cry and voice are usually strong but hoarse. The baby may be frightened, and his fright increases the symptoms. Croup frequently occurs two or three nights in succession, and a baby who has had one attack of croup is likely to have others.

Before the doctor comes the baby should be placed in an atmosphere filled with water vapor. This may be done by placing him in a small warm room in which water is boiling, or a bathroom with hot water running. The doctor will advise with regard to treatment.

The day after the attack the baby should be kept quiet in a warm room at even temperature, in bed if necessary. For 2 or 3 days after an attack the child should not breathe very cold air; even the air in his sleeping room should be kept warm and moist.

Laryngitis.

If a baby who has had an attack of croup in the night is still hoarse the next morning, he probably has laryngitis—a condition due sometimes to diphtheria. It may accompany or follow a sore throat. A baby with this serious form of croup usually has hoarseness, loss of voice, and noisy, labored breathing, and seems increasingly sick. He may become worse during the night. Exhaustion and weakness are signs of great seriousness. He should be seen by a doctor as soon as possible.

If the baby has been given diphtheria toxoid, and 6 months later the Schick test is negative (see pp. 103–104), he will probably have been protected from diphtheria.

Pneumonia

Pneumonia is always a serious disease in a baby. It may develop after a cold, measles, whooping cough, or other infection, or it may begin suddenly. Especially careful nursing and a doctor's care are necessary.

Scurvy

Scurvy is a disease caused by a lack of vitamin C in the food. (See p. 87.) Babies with scurvy are pale and irritable and do not gain satisfactorily. The chief symptom is a tendency to bleed; the bleeding is often internal and therefore cannot be seen. It frequently occurs around the bones, and one of the first things that is noticed is a soreness of the legs or arms. The baby cries when he is picked up or when the diaper is changed; he does not like to be handled. Sometimes a baby will not move an arm or a leg in which bleeding around the bones is present, and the mother may think the part is paralyzed.

There may be bleeding from the skin, and if the baby has teeth the gums around them may bleed.

Scurvy can be prevented or cured by giving foods that contain vitamin C. Breast-fed babies whose mothers have a good diet rarely get scurvy; it is found chiefly in babies who have been bottle-fed for long periods and whose food does not supply enough vitamin C.

Rickets

Rickets is a common disease caused by lack of vitamin D in the food and lack of sufficient sunshine. It may also result from too little calcium or phosphorus in the food, but the baby who gets plenty of milk usually does not lack these minerals. Rickets occurs during the period of most rapid growth in infancy and early childhood. It affects the whole body, but most strikingly the bones, which may become greatly deformed, and the muscles, which become weak and flabby. Rickets usually starts in the first months of life, when the baby is growing most rapidly, but may not be recognized until later, when the weakness of the muscles and the deformities of the bones (such as bowlegs) become pronounced.

The baby with rickets may be restless, irritable, and pale. He may be slow in teething and in learning to walk. His weight may or may not be normal.

If a child's chest bones are greatly deformed by severe rickets, the deformity may prevent his lungs from expanding properly. A child

who has rickets is often not able to throw off infections as a normal child does. Thus, although rickets does not cause death it may make other diseases more serious and thus cause death indirectly. One complication of rickets is a serious disease called tetany, which causes convulsions.

Bottle-fed babies are more likely to develop rickets than breast-fed babies, but breast-feeding does not prevent it. A rapidly growing baby is more likely to develop rickets than a baby who is growing more slowly. A premature baby is especially likely to develop rickets, as during his early months he grows faster than a full-term, normal baby.

Rickets may be prevented or cured by giving cod-liver oil or other source of vitamin D or by giving sufficient direct sunlight, or still better, both. (See pp. 35–37, 88.)

Pellagra

Pellagra is a disease caused by lack of a vitamin called nicotinic acid, or niacin. If the diet of the mother of a breast-fed baby is adequate in niacin the baby will not develop pellagra, but if the mother does not get enough of the foods that ordinarily supply niacin (milk, lean meat, and certain vegetables) the baby may show signs of pellagra before any appear in the mother. Cow's milk usually contains enough niacin to prevent the disease.

Pellagra in mild form is associated with loss of appetite, constipation or diarrhea, soreness of the tongue and mouth, digestive disturbances, loss of weight and strength, and irritability. In more severe form it may cause paralysis.

Anemia

Anemia is a condition in which the baby's blood has less coloring matter than it has under normal conditions. If a baby looks pale the doctor should be notified; he will probably make a test of the blood to find out whether the baby has anemia.

There are several reasons why a baby may have anemia.

1. He may have had a severe illness in which some of his blood was used up. A general building up after the illness will cure this anemia.

2. He may have lost blood, either from a wound that bled a good deal, or by some slow, oozing, internal bleeding. If the loss has been very great it may be necessary to give him a transfusion of someone else's blood. If the loss has not been too great he will recover from the anemia after the bleeding stops.

3. He may have a serious disease in which the blood is being destroyed in his blood vessels. Such a disease, however, is rare among babies.

4. His diet may be lacking in iron, or his mother's diet before he was born may have been lacking in iron. Iron is necessary to make the red coloring matter of blood. Mother's milk and cow's milk supply very little iron, but a full-term baby has enough in his body at birth to supply his needs until he is 4 or 5 months old. After this he needs iron in his food, and if it is not added he may develop anemia. Foods that supply iron are red meat, egg yolk, green leafy vegetables, and whole-grain or enriched cereals.

A premature baby needs to have iron added to his diet earlier than a full-term baby, for he has much less iron in his body.

COMMUNICABLE DISEASES

Thrush

Thrush is a disease of the mucous membrane caused by putting dirty objects into the mouth. When a baby has thrush small white spots are found on the inside of the cheeks and, less frequently, on the lips, gums, and tongue. Great care should be taken not to hurt the mucous membrane, for if it is irritated the condition will become worse. If the condition is severe, feedings may be given by spoon or cup until the disease has disappeared. Give the baby 4 or 5 teaspoonfuls of water to drink after each feeding to rinse his mouth, but never swab nor wipe out the mouth except under the direction of a doctor.

To prevent thrush, sterilize (boil) everything that is likely to be put into the baby's mouth. Never put an unboiled rubber nipple into the baby's mouth. Do not wipe the inside of his mouth with a cloth or gauze.

Chickenpox

Chickenpox is seldom serious, and complications are rare. It is an entirely different disease from smallpox. It is easily spread to a healthy person by contact with material from a skin eruption or from sores in the nose and mouth of someone with the disease. About 2 or 3 weeks pass between contact and appearance of the disease. The first symptoms are skin eruption and a mild fever. A baby with chickenpox should be kept from scratching;

his fingernails should be kept very short and clean.

Diphtheria

Diphtheria is less common in infants than in children over 1 year of age.

Diphtheria is spread when the discharges from the nose and throat of a person who has the disease or is a carrier of the disease reach the nose or throat of a well person. Sometimes infected throat discharges get into a milk supply; such milk is a source of infection to all who drink it. It takes 2 to 5 days after exposure for the disease to develop. The first symptoms are sore throat, hoarseness, croup, and fever. A doctor should always be called if diphtheria is suspected, because the earlier the antitoxin is given the more effective it is. Diphtheria is a serious disease, and complications are frequent and serious if treatment is delayed.

Diphtheria can be prevented by injections of toxoid in infancy. Every baby should be given these injections—beginning at 9 months (see pp. 103–104).

Very few persons get diphtheria more than once.

Measles [2]

Measles is a more serious disease in infants than in older children. Measles is very contagious. It is spread by discharges from the nose and mouth of an infected person that reach the nose and mouth of the baby. The disease usually develops 10 to 14 days after exposure, although measles has been known to develop in as short a time as 7 days after exposure, or as long as 21 days. Early symptoms are fever, cough, watery eyes, running nose, and general lassitude. The rash usually appears on the third day, but it may appear earlier or even later. The disease can be given to others from the time the first symptoms appear until about a week after the appearance of the rash.

Complications such as ear infection and pneumonia develop in many babies after measles. Much can be done to prevent these complications by following the doctor's advice carefully and keeping the baby in bed long enough.

If a mother knows that her baby has been exposed to measles she should take him to a doctor. The doctor may give the baby an injection that will tend to make the attack of the disease mild.

One attack of measles usually makes the baby resistant to later attacks. Some people, however, have measles more than once.

Whooping Cough

Whooping cough is a more serious disease in infancy than in later childhood. Whooping cough is spread by discharges from the throat of a person sick with the disease that get into the throat of a healthy person. Whooping cough has a slow and gradual onset. It begins with a cough like the one that accompanies many common colds. This cough usually lasts about 2 weeks before whooping develops. The "whooping stage" of the disease lasts several weeks to a month or 6 weeks. Whooping cough is contagious during the early period before the appearance of the whoop. Since diagnosis is difficult during this stage the disease often is not recognized, and many children spread the infection before it is known that they have the disease. If there is whooping cough in the neighborhood, a mother should be on the alert for the development of even a slight cough in her baby. Of course anyone with a cough should never be allowed to be near a baby.

Prevention of whooping cough by inoculation is recommended by some doctors. (See p. 104.) The method does not always prevent the disease, but as a rule if the disease develops after a baby has been inoculated against it the attack is mild.

If a mother has any reason to suspect that her baby has whooping cough she should call the doctor.

Tuberculosis

Tuberculosis is a serious and often fatal disease in infancy. There are two types of this disease:

(1) Tuberculosis of the lungs, which a baby can get by being near someone that has the disease, and

(2) tuberculosis of other parts of the body—intestines, bones, glands, genitals, kidneys, or bladder—which a baby can get by drinking milk from a cow or a goat that has the disease.

A baby who persistently does not gain in spite of good care or who has an unexplained daily rise in temperature should be taken to a doctor and tested for tuberculosis. He should

[2] For prevention or modification of measles, see p. 105.

be kept under the close supervision of the doctor.

Dysentery

Dysentery is a disease of the bowels, which occurs generally in hot weather and hot climates. It usually results from contact with someone who has the disease or from infected milk or other food. It often is spread by flies. It causes fever, severe diarrhea that is often bloody, and loss of weight. A doctor should be called if a baby has diarrhea. He will decide whether or not it is due to dysentery and will direct the treatment accordingly.

Gonococcus Infection

If an infant has gonococcus infection it is likely to appear as ophthalmia neonatorum (infection of newborn babies' eyes) or vaginitis (white or yellowish-white discharge from the genital tract of baby girls).

Ophthalmia neonatorum may cause permanent blindness if not treated promptly. It may usually be prevented by putting 2 drops of 1-percent silver-nitrate solution, freshly prepared, into each of the baby's eyes immediately after birth. If there is redness or discharge from the baby's eyes within the first 2 or 3 weeks after birth, the doctor should be called at once so that intensive treatment can be given if he finds that the baby has a gonococcus infection.

Girl babies not infrequently have a white discharge from the vagina at birth, which soon disappears. A discharge which persists or is yellowish is caused in some cases by gonorrhea, contracted usually from the mother at birth or from some member of the household who has the disease. The germ may be carried on the hands, or on washcloths, towels, or diapers. Microscopic examination should be made of any vaginal discharge to determine whether it is gonococcus infection. Prompt treatment under the direction of a doctor is necessary to cure this form of gonorrhea, which is often persistent. A baby who has it should wear a pad to catch the discharge. The pads should be burned.

Unless the utmost precautions are taken gonococcus infection will spread to other children, especially girls, who may come into contact with the baby or the person caring for the baby. A child with this disease, even under treatment, should be considered a possible source of infection as long as there is a discharge, and every care should be taken to prevent the spread of the disease.

The mother or nurse caring for a baby with gonococcus infection should scrub her hands thoroughly with hot water and soap every time she has handled the baby. Every article of soiled clothing and bedding used by the baby should be boiled half an hour. The entire bath equipment should be strictly separated from that used by any other person.

Syphilis

Congenital syphilis, which is syphilis acquired by the baby from the mother before birth, unfortunately is fairly common. It is preventable. (See p. 105.)

Many babies who have congenital syphilis either die before birth (that is, are stillborn) or die within the first few weeks after birth. Those that survive may have effects from the disease that handicap them, sometimes throughout life.

The disease can be prevented in the baby if the mother has adequate prenatal treatment. If the mother is known to have syphilis, whether she has been treated for it or not, the baby's blood should be tested for syphilis when he is about 2 or 3 months old, even if he has remained healthy. If the test is positive at this time he should be treated for syphilis even though he is still apparently well; if the test is negative it should be repeated every 6 months for at least 2 years.

If a baby is born with snuffles, or a skin eruption, or peeling of the palms or soles or if he develops them shortly after birth, a doctor should be consulted and a blood test made. No baby is too young to be treated for syphilis. Treatment should be started as soon as the disease is known to be present and should be continued until repeated tests show that the blood is normal.

ACCIDENTS

Swallowing Foreign Bodies

If such objects as coins and pins are swallowed they usually pass through the intestines without causing any damage, but occasionally damage may occur, and a child who has swallowed any article should be watched carefully. If no symptoms develop no treatment is necessary. The stools should be examined for the swallowed article. No medicine should be given, nor should any change

be made in the diet except as ordered by the doctor. If the object swallowed is sharp or pointed, the doctor should be called immediately.

If a baby gets a small object in his windpipe he will cough or choke. If he is held head down and slapped on the back, the foreign body will frequently fall out. If it does not, a doctor should be called or the baby should be taken to a hospital.

Swallowing Pills or Poisons

If a baby accidentally swallows a pill or anything else that might possibly poison him, a doctor should be called at once or the child taken at once to a hospital. While waiting for the doctor try to make the baby vomit by tickling the back of his throat. Giving him plain water may make him vomit, or warm water with common salt or mustard dissolved in it—a teaspoonful of the salt or mustard to a glass of water. Give him as much as he will drink.

Burns

Mild Burns.

A mild burn that causes only redness of the skin or small blisters may be treated by holding the burned part in lukewarm water for a few minutes and then applying a paste of bicarbonate of soda and water. After this a clean dry bandage without oil should be put on. Do not break a blister, as a broken blister may become infected. Do not use absorbent cotton.

Moderately Severe Burns.

For burns that are severe enough to cause much blistering or that affect much of the skin surface a doctor should be called. For home treatment before the doctor sees the baby, hold the burned part in lukewarm water for a few minutes and then pour freshly prepared tea, very strong, which has been cooled to body temperature, over the burn, or apply a paste of bicarbonate of soda and water. Clean, smooth lightweight sterile bandages or a freshly ironed piece of linen should be used—never absorbent cotton. Do not use oil or oily substances.

Severe Burns.

Deep burns or burns that affect a very large part of the baby's body need a doctor's care as soon as possible. If you can, wrap the baby in a blanket and take him to the hospital or the doctor's office immediately. If delay in reaching the hospital or the doctor cannot be helped, try to remove the baby's clothing as quickly as possible, by cutting if necessary. Do not try to pull off clothing that is sticking to the burned part of the body, but put the baby, clothes and all, into a tub of lukewarm water. Take him from the tub after half an hour and pour cooled fresh strong tea over the burned part. Wrap him in a smooth clean sheet and keep him warm until the doctor can be reached. Never put absorbent cotton near the burned part, nor other rough substance, such as a woolen blanket that might stick to the flesh. Do not use oil or oily substances on a burn, especially on a deep burn.

Cuts and Wounds

A break in the skin should be cleaned thoroughly with water and mild soap. It may be painted with fresh tincture of iodine and washed off with rubbing alcohol and a sterile bandage applied. All severe cuts, deep puncture wounds, and wounds into which dirt has entered should be treated by a doctor.

MEDICINE-CABINET SUPPLIES

Clinical thermometer.
Syringe with soft-rubber tip.
Bicarbonate of soda (baking soda).
Roll of 1-inch sterile gauze bands.
Roll of 1-inch adhesive tape.
Small bottle of tincture of iodine (3½ percent solution), not more than a year old (date of purchase on label).
Small box of dry mustard.
Rubbing alcohol.
Throw away old prescriptions.
Keep the medicine cabinet closed.

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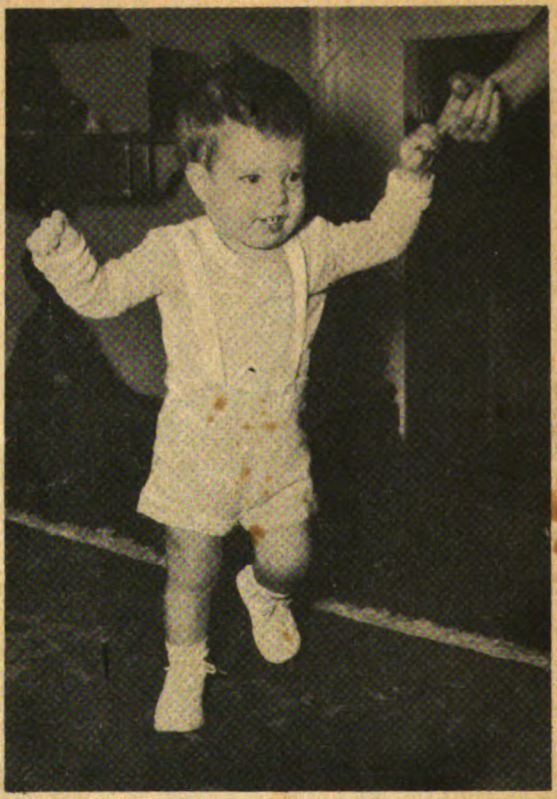
Children's Bureau Publications of Interest to Parents

(Single copies may be obtained free by writing to Children's Bureau, Washington 25, D. C.)

Prenatal Care. Pub. 4. 64 pp.
Baby's Daily Time Cards (five cards giving daily routine and training for babies from birth to 1 year of age).
Your Child From One to Six. Pub. 30. 147 pp.
Guiding the Adolescent. Pub. 225. 96 pp.
The Road to Good Nutrition. Pub. 270. 57 pp.



Horace Eaton