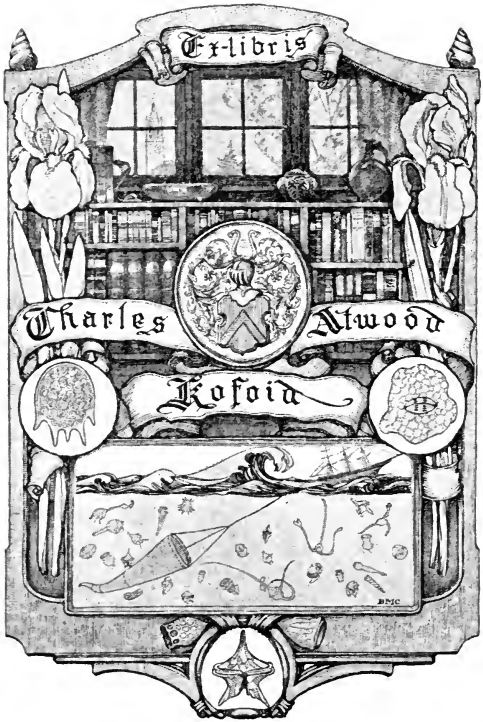
# BETTER BABIES
## AND THEIR CARE

ANNA STEESE RICHARDSON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# BETTER BABIES
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BY

ANNA STEESE RICHARDSON

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TO

THE ONE HUNDRED THOUSAND BABIES
THE ONE HUNDRED THOUSAND MOTHERS
THE ONE HUNDRED THOUSAND HELPERS
WHO HAVE TAKEN PART IN BETTER BABIES CONTESTS
THIS BOOK IS DEDICATED
BY A MOTHER WHO KNOWS WHAT
BETTER BABIES, BETTER MOTHERS, BETTER HELPERS
MEAN TO THIS AND FUTURE GENERATIONS

## PREFACE

It was in January, 1913, that the *Woman's Home Companion* sent Anna Steese Richardson to Denver, Colorado, to report a Baby Health Contest held in connection with the National Western Live Stock Exposition. There she found babies being examined for physical and mental development, and scored for points by standards of weights and measurements very much as live stock is scored at agricultural fairs.

Mrs. Richardson's journalistic instinct told her that here was a big constructive work, at its very beginning, and that its spectacular possibilities would make attractive "copy" for a magazine. But before she left Denver for New York she had begun to think of something much bigger and more important than what the babies could do for the magazine, and that was what the magazine could do for the cause of better babies.

As a result of this trip, the *Woman's Home Companion* adopted as its own special charge the work now known all over the world as the Better Babies campaign. This has quickly become a widespread movement for education in parenthood. Pride of parenthood brings fathers and

mothers to the Better Babies Contests. Parental love holds them there to watch their babies examined by physicians and to learn how the condition of their children can be improved by intelligent care and feeding and sanitary environment.

The results are so far-reaching that one hesitates to put them into words, for fear they may seem overstated. After a little more than one year of hard work, the Better Babies Bureau of the *Woman's Home Companion,* under the directorship of Anna Steese Richardson, has become a tremendous machine for aiding in the reduction of infant mortality, and for raising physical, mental, and moral standards among children.

Naturally, the starting-point for much of this work has been the fair—state, county, and local. These widely advertised contests have been a sort of blare of trumpets to attract attention. But above and beyond this element has been the quiet and persistent growth of the work among board-of-health officers, medical societies, club women, church organizations, physicians, nurses —in fact, among all bodies of men and women especially interested in child welfare. The fostering and furthering of this work, which has progressed beyond all expectations, has been Mrs. Richardson's chief joy and pride during a year of almost unbelievable endeavor.

The author of this book is a keenly interested

and intelligent observer. While she has gathered into the book much that is of real scientific value, contributed by physicians, nurses, psychologists, and social workers, still the chief usefulness of the volume, it seems to me, lies in the fact that it is a message from one mother to other mothers, and is written in the language that all mothers can understand.

The woman who writes it has had not only the actual experience of bearing and rearing her own children, but she has had the rare privilege of corresponding with mothers from every point in the United States, of witnessing many of the Better Babies Contests, and of studying not only what is the matter with the sick baby, but why the well baby is well.

GERTRUDE B. LANE
*Editor, Woman's Home Companion.*

**March 26th, 1914.**

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# BETTER BABIES
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## CHAPTER I

## PREPARATION FOR MOTHERHOOD

MOTHERHOOD A PROFESSION WHICH REQUIRES TRAINING—PRENATAL INFLUENCE AND HYGIENE—MATERNITY CLOTHES

MATERNITY is woman's exclusive profession, the only one of which progress and science cannot rob her. It is also her highest profession, for, compared to motherhood, art and science dwindle into insignificance.

Successful motherhood, like genius in any art or profession, is founded on efficiency and joy in the chosen work, and the greater of these is joy. She who is merely efficient can reduce the mountains which rise in the pathway of the mother; joy in motherhood can remove them. For joy casts out doubt, fear, and all sense of burden. The woman who finds joy in maternity is absolute mistress of the domestic and social situation. Through it she commands the love and

reverence of the husband to whose eyes she has opened the wonders and the mysteries of parenthood. For her the doors of the divorce court never yawn. For her motherhood entails no sacrifice. She has no regrets for a career cut short by marriage, because she finds in maternity the same supreme satisfaction of accomplishment which comes to the successful lawyer, financier, writer or artist.

Motherhood, like any other profession, requires preparation. For many generations the world has held that the maternal instinct and the ability to rear children were born in woman. It has been discovered that the maternal instinct, like many others, needs encouragement, while the ability to bring up children requires development or practical training. The phrase, "a born mother," has rather fallen into disrepute. We are beginning to realize that one "born mother" in a thousand is not enough to leaven the maternal mass. And out of this discovery has risen a demand, which comes largely from women themselves, for education in motherhood, practical, sincere preparation for woman's exclusive profession.

Perhaps the day will come when each college for women will have its endowed chair of motherhood, when the care and feeding of infants will be taught in our normal and high schools for girls. At present, certain colleges offer a course in psychology which prepares young women to guide,

mentally and spiritually, the children they will some day bear. In a few city schools, particularly in the congested districts, girls are now taught how to bathe, dress and feed infants, largely for the purpose of having the message of sanitation and hygiene carried home to the tenement house mother.

Until these two forms of training for motherhood are combined, the American girl must enter the profession of maternity without the sort of practical preparation which will insure efficiency and joy in her chosen work. What knowledge she now possesses is a smattering of what her mother has learned by experience, what the family physician imparts at odd moments, what she reads in books or magazine articles, and what she hears at lectures where a few valiant souls proclaim motherhood as a profession which requires the most thorough of training.

Preparation for motherhood must rise above the practical instruction in the care and feeding of infants which leads to efficiency. It requires a certain mental and spiritual adjustment of the woman to the environment and conditions of maternity. She who is obsessed by the fear of physical suffering which motherhood may entail, who regards the coming of a child as the end of her individual career, her social life, her personal pleasures, will be neither efficient nor joyous.

Fear and doubt come between her and success. They even threaten her health.

Therefore, the first step in preparation for motherhood is the firm belief that it is a privilege, not a duty; a joy, not a sacrifice; an investment that will pay big dividends. Thus armored, the prospective mother enters upon the nine months of pregnancy insured against anxiety and ill-health. The joy she finds in carrying her child provides a splendid foundation for the child's health. The woman who frets brings forth a nervous child. The woman who rebels generally bears a morbid child.

Science wrangles over the rival importance of heredity and environment, but we women *know* what effects prenatal influence works in children. And, knowing this, what a mystery that we do not mold each thought and act in the interest of the children whose up-bringing will be our real life-work! How strange that mothers do not realize that the burden of maternal and domestic duties can be lightened by prenatal care and character molding.

Science has done much for the modern mother. It has lessened the danger and the pains of child-birth. The once dreaded child-bed fever is now practically unknown. Disinfectants and sanitary care have reduced this danger to a minimum. Anæsthetics have reduced the strain and pain of labor. Physicians no longer withhold the anæs-

thetic until the hour when instruments or an operation make its use necessary; through the later stages of ordinary labor, the modern physician offers the alleviation of chloroform, and the mother comes through the ordeal with one-fourth the pain endured by her mother and grandmother.

Modern ingenuity also designs many comforts for the prospective mother, not the least of which is maternity raiment, including corsets and adjustable gowns. Why do not women avail themselves of all these aids? Largely because they are not educated for motherhood.

Medical science, through sanitation and hygiene, has lightened the mother's burden in rearing her baby. It has proved beyond doubt that the child raised under sanitary and hygienic conditions, fed, bathed and clothed properly and trained to regular habits, can escape most of the ailments which were once counted as almost normal manifestations of the child's growth.

Many of us can recall the day when a colicky baby was considered a dispensation of Providence, not a proof of maternal ignorance or carelessness; when convulsions during teething were regarded as "natural"; when "summer complaint" was accepted as a normal feature of baby's second summer; when children were actually exposed to whooping-cough, measles and chicken-pox, so they would have these juvenile ailments and be done with them!

To-day, unless a baby is born with some inherited weakness or chronic disease, science teaches how to protect the child from ordinary ailments—colic, convulsions, summer complaint, and contagious diseases. This is the day of preventive medicine, particularly in the care of infants. Prevention lightens the burden of motherhood. When young women are trained to ward off illness in children, not to nurse them through illness, motherhood will mean what it should mean to women—Joy.

Start your maternal career right by preparing your body and your mind for motherhood. Start your baby right in life by studying sanitation, hygiene, the care and feeding of infants. Know your business as a mother, and motherhood will have no terrors for you.

Remember that your own physical condition and the health of the baby you will bring into the world depend largely upon your mental attitude. Cast out all fear of childbirth and all dread of maternal duties and sacrifices. Fretting, grieving, or rebellion will not purchase immunity from maternal duties. Rather it will increase them. The child will be born and laid in your arms to be fed, cared for, and reared, whether you weep or smile through the months of pregnancy. Self-control, cheerfulness and love for the little life breathing in unison with your own will prac-

tically insure you a child of normal physique and nerves.

Physicians and scientists may regard stories of prenatal influence which float through open nursery doors as "old women's tales"; but we women who have borne children know the price babies pay for maternal self-indulgence, mental abnormalities, bitterness, hysteria.

I recall one woman of my acquaintance whose self-consciousness amounted to an affliction. She was super-sensitive, self-effacing, apologetic, always afraid that she was not wanted. One day when speaking of her futile efforts to correct the tendency, she explained that she had been an unwelcome child. Her mother had rebelled throughout the period of pregnancy. She had nursed her child in bitterness of spirit. Later in life she learned to cling to her daughter for companionship as well as material care, but the girl never outgrew those unfortunate prenatal influences.

Another girl, sixth in the family, was carried and nursed by her mother through times of financial stress, when one more mouth to fill was a hardship. As soon as the child could toddle, she developed a passion for running away. She grew up absolutely devoid of family instinct, filial affection and womanly sense of responsibility. While very young, she eloped with her first suitor, rather than remain under the parental roof. She was

never dishonest or immoral, but she was born hating her home and indifferent to her parents.

Still sadder is the case of a mother who gave way to hysteria and hideous paroxysms of anger throughout the period of pregnancy. Though physically sound herself and married to a man without taint, this woman brought into the world a child who never developed mentally beyond her second year. To-day this mother, now a self-supporting widow, never leaves the institute for feeble-minded children, where her daughter is safest and happiest, without the throbbing thought, "Why did no one warn me of what I was doing to my child?"

On the other hand, when maternity is accepted as a privilege, and love instead of bitterness reigns in the prospective mother's heart, the babe is born tranquil, normal, healthy. Returning to the phrase, efficiency in motherhood, it is good business to bear normal children.

In this day, the woman who frets, rebels and weeps during pregnancy commands little sympathy and practical help from her husband and family. But there is something fine and inspiring about the woman who firmly, cheerfully demands for herself and the child she is carrying the best that domestic conditions and environment afford. She becomes an heroic figure, fulfilling her highest duty to society, and demanding just toll. Men bow to this attitude when they flee hysterics and

turn deaf ears to angry complaints. And no woman should disregard the importance of moral support and sympathy on the part of her husband.

To guard her own health and that of the child, the expectant mother must give careful attention to three things: diet, rest, exercise.

Upon the diet will depend largely the proper nourishment of two lives instead of one. Each woman is a law unto herself in diet, and should make an earnest study of her food-needs and the effect of foods upon her digestive and nervous system. No cut-and-dried diet can be prescribed for the pregnant woman, because what agrees with one woman may disagree with another.

Generally speaking, however, the diet should include a large proportion of liquids, fresh fruits and vegetables, with a small proportion of meats and practically no rich or highly spiced desserts. Excesses of any sort should be avoided.

Liquid food is important because it encourages the system to throw off impurities through the bowels, kidneys and skin. From two to three quarts of liquid should be drunk daily, particularly cool, pure water. An excellent plan is to drink one glass at rising, two between breakfast and dinner, two more between dinner and supper, and one before retiring—six in all. Water should not be drunk with meals. Milk, cocoa, chocolate, clear broths and buttermilk are excellent beverages, but both tea and coffee should be taken

sparingly, and alcoholic drinks should be avoided. Nothing will be gained by forcing yourself to drink any of these liquids if they nauseate you or fail to digest easily. If milk, the most important of beverages to the expectant mother, is palatable but causes constipation, laxative foods can be used to correct this tendency.

Meat should be eaten once a day. Poultry and lamb are given the preference by dietitians. Beef is better than veal; pork is difficult to digest under any condition; and meat stewed until tender in a milk or cream sauce is more easily digested than fried meat. Smoked meat is not particularly nourishing to mother or child, but crisp ham and bacon are useful in whetting a failing appetite. Fish, oysters, and eggs may be used to vary the diet, but they do not replace meat.

Fruits and vegetables should be eaten freely. Fresh fruits, including apples, peaches, pears, oranges, grapes, shredded pineapple, grape-fruit, plums, strawberries, raspberries, and huckleberries, should be used regularly in season. When they are not to be had, stewed fruits—apples, prunes, rhubarb, peaches, figs, etc.—may be substituted. When dried fruits are used, they must be soaked well and cooked thoroughly.

The most desirable vegetables are young onions, asparagus, peas, potatoes, lima and string beans, carrots, spinach, celery, lettuce and romaine. Heavier vegetables such as cabbage, cauliflower,

baked beans, beets, turnips and radishes are not so easily digested and should be eaten sparingly.

Salads made with olive oil dressing are an important item in the diet of the prospective mother. Many dietitians urge that fresh salad be eaten at least once a day.

Particular attention must be paid to the effect of cooked and prepared cereals on the digestion. Some women do not digest the heavier cereals, like oatmeal, cracked wheat, cornmeal, while patent foods of a lighter nature agree with them. In this case, the mother who "hates cereals" will do well to try some of the light patented foods, with cream and sugar or fruit, and train herself gradually to enjoy a cereal course with at least one meal a day. The coarser breads, such as whole wheat, graham, cornmeal and bran, are recommended for prospective mothers who suffer from constipation, indigestion or heartburn.

The woman who feels an inordinate craving for certain articles of diet, such as pickles, lemons, candy, etc., should exercise judgment and self-control. Like any other habit, extremes in diet will grow upon a woman until they really endanger her health. Their indulgence will in no way lighten the burdens of pregnancy. Considerable acid is supplied in salads and fruits; and a limited amount of sweet pickle, catsups and other modern condiments may be taken with meals.

Custards, gelatines, sponge cake, light desserts

made with fruit, and ice-cream are desirable sweets.

Rest and normal sleep, alternating with healthful exercise which does not exhaust the system, are vitally important to both mother and child. Eight hours' sleep each night is a good average, and to insure normal sleep the prospective mother should be made as comfortable as possible.

I have known mothers who, at this time, suffered torture if they shared a bed or even a room with other members of their family, and yet they denied themselves the important privilege of privacy. The expectant mother should sleep in the environment and atmosphere most conducive to perfect rest. Her bedding should be light but warm in cold weather. The room should be properly ventilated, with the window open top and bottom. No gas jet or lamp should burn in this room during the night. In cold weather a very simple way to insure comfort and prompt dropping off to sleep is to lay a hot water bag, covered with flannel, between the sheets. The pregnant woman should never suffer from chill or dampness.

The mental attitude of the expectant mother just before retiring is an important factor in insuring sleep. Family disputes, even discussions on impersonal problems, should be avoided. The woman engaged in a wordy argument on religion, politics, or any social question may go to bed so

excited that she will go over and over the discussion when, for the sake of herself and her unborn child, she should be sleeping.

Neither should she go to bed hungry. A glass of milk, warm if it can be taken that way, cocoa, broth or gruel is a sleep coaxer, but no tea, coffee, or any other stimulant should be drunk just before bedtime.

In addition to regular sleep at night, the prospective mother should have at least one nap during the day, at a time which will least interfere with her household duties. A mother who has borne six children, who has had little domestic help, and who yet retains her youthful look and energy, has often told me that she thinks her present condition due to the fact that while carrying and nursing her babies she never permitted herself to reach that stage of exhaustion where her nerves twitched, her voice shrilled, and she became irritable. She made it a practice to drop her work when these symptoms appeared, and to seek the sanctuary of a quiet room apart from her family, if only for ten or fifteen minutes. And, most important, from the very start she trained her household to respect her right thus to draw apart.

Exercise for the pregnant woman should mean more than muscular activity. It should represent change of scene and thought, relaxation and recreation. The best form of exercise is walking for walking's sake. This does not mean shopping

or walking a few blocks to the home of a friend and then sitting down for a half hour or more of gossip. It means going out into God's fresh air with one's eyes open to the beauties of nature or the human drama through which the walk leads. On the other hand, the woman who has led a sedentary life should not walk too violently at first. Let her start with a half hour's walk each day and increase it gradually until she spends at least two hours outdoors daily.

The woman who lives in a small city, a suburb, a country town, or on a farm, is singularly fortunate, as she will find light gardening the very best form of exercise.

In the side yard of a charming home where I often visit there is a flower-bed for each child born into the family circle. One year the mother laid out, planted and coaxed to bloom a border of lilies-of-the-valley; at another time she started her violet bed; a third child is represented by a wonderful circle of tulips and the fourth by an arbor of rambler roses. I often wonder whether the fine, flower-like natures of the girls in this family cannot be traced to the mother's tranquil work in the garden.

Raising chickens, ducks, or pigeons will also take the expectant mother outdoors and provide pleasant recreation.

The woman who, through her girlhood, has been keen for athletic sports, such as tennis, golf, skat-

ing, and motoring, must curb these forms of recreation. Fully ninety per cent. of the physicians with whom I have discussed the question condemn constant motoring for the expectant mother. To employ the automobile as a transportation convenience is one thing; to take long, tiring rides or tours is positively dangerous for the pregnant woman, as it invites miscarriage.

Household duties exercise the muscles and are invaluable if performed in properly ventilated rooms. Unfortunately, however, many prospective mothers sacrifice their own health and that of their unborn children on the altar of domestic neatness. During pregnancy a woman should simplify her household management, even if this step involves packing away bric-à-brac and rolling up rugs.

This is no time for a woman to be self-sacrificing, and yet it often amounts to an obsession with her. I have seen such mothers performing heavy household duties, which other members of their family would gladly have assumed. I have seen them strain muscles and eyesight to embroider or trim raiment for the older children, and I have seen them carefully select the choicest bits of food at table for husband or growing child, when the mother should have, for her own health and that of her unborn child, the very best which the family purse can afford. This spirit of martyrdom may give a certain amount of mental sat-

isfaction to the woman who practises it, but it is harmful to the unborn child and is really a symptom of mental disturbance not to be encouraged.

The actual physical comfort of the mother means much to the child. If there is any time when a woman has the right to allow herself time to care for her body, money to purchase easy clothes and small personal luxuries, it is when she is carrying a child. Bathing is a luxury which many overworked home-makers deny themselves. The expectant mother should *make* time to take a daily bath. If there is a stationary tub in the house, this bath may be of the sort which is most comforting to her: a tepid bath before retiring or a cool bath on rising. When there are no bath and plumbing in the house, the mother should have a portable tub in her room, in which she can sponge off quickly with tepid water, followed by brisk rubbing with a Turkish towel. A warm bath with soap should be taken twice a week, but very hot or very cold baths must be avoided. Bathing is important because it keeps the pores of the skin open. It is estimated that at least a pint of waste matter is thrown off each twenty-four hours through open pores. There is danger for mother and child if this waste matter is permitted to clog the former's system.

The mission of maternity clothing is to make the mother comfortable. For that reason experts are beginning to design raiment that is both com-

forting to the body and pleasing to the eye. The woman who has never worn flannels should not don them during pregnancy. They merely produce irritation which she should be spared. Union undergarments, with or without sleeves, come in cotton as well as wool, and are much better than the separate garments with bands. Particularly comforting are the maternity corsets, made largely of elastic. These have the side garters; no round leg garters should be worn. One-piece dresses with a drop skirt save the expectant mother another set of bands. All the clothing should be loose and easy, and it is well for the expectant mother to buy stockings, shoes and even gloves in a size larger than she ordinarily wears. Pressure on any part of the body affects the circulation and heart action of the pregnant woman. Patterns for maternity garments can be purchased at the agencies for all reliable pattern firms, and they deserve the consideration of the expectant mother who will suffer if she attempts to wear the clothing made for her use under ordinary conditions.

The teeth should be especially guarded during pregnancy. They should be examined at regular intervals by the family dentist, and small cavities promptly filled. Both physicians and dentists claim that the teeth are extremely susceptible to decay during pregnancy for two reasons: first, because the mother's system is drained of the lime salts which go to build up the bones of the child;

second, because, as pregnancy progresses, acids are often retained in the system, and these, together with slight indigestion, affect the teeth.

The breasts should be carefully watched, especially toward the end of pregnancy. The family physician should make an examination and see whether they require any special treatment. The nipples may be toughened by bathing them at bedtime and then covering them with lanolin and old linen or gauze. This prenatal care of the breasts and nipples may prevent great suffering immediately after the birth of the child.

"All this is very well," exclaims a busy homemaker, "but to follow this régime I must rearrange our entire scheme of living."

If this is true, then, indeed, motherhood will bring to that home a double blessing, for the life outlined in this chapter is a normal one, as good for the childless wife as for the expectant mother. And here is a case in point:

Among the prize-winning children at a Better Babies Contest on the Pacific Coast was a little boy, born of the type of woman commonly known as "delicate." Throughout her girlhood she had been a semi-invalid. Her husband's friends shook their heads when the engagement was announced. The first year of their married life was marked by frequent illnesses for the wife. When she learned that she was to become a mother, she was suddenly alarmed for the future of her child. She

made an earnest study of how to reform her own life so that her child might be spared the ailments from which she suffered. She chose a normal, nourishing diet, and persisted in it. She gradually learned to take and enjoy outdoor exercise. She had a small porch converted into an outdoor sleeping-room. As a result—her labor was easy and natural, her child healthy, normal and good-tempered. Her own health was rehabilitated. She has never reverted to her former state of semi-invalidism.

## CHAPTER II

### BABY'S BIRTHDAY

CHOOSING THE NURSE AND DOCTOR—SANITARY BEDROOM AND ITS EQUIPMENT—THE BABY'S LAYETTE—PREVENTION OF BLINDNESS IN NEW-BORN BABIES—THE BABY'S FIRST BATH

THE ushering of a new life into the world is an event so momentous and fraught with such wonderful possibilities for both mother and child that it should be planned with every possible precaution. No item of preparation, however trifling, should be left to the last moment. The mother should be able to find relief in the thought that all things are in readiness for the safety and comfort of herself and her child.

The doctor who will be in attendance should be chosen early in the period of pregnancy and consulted whenever the expectant mother feels any anxiety about herself. In this matter the wishes of the woman should be supreme, for her dread of confinement will be greatly lessened if she feels confidence in her physician. I have known women to become extremely nervous because, for reasons

of expediency, they were forced to accept the services of a physician desired by husband or family. No one has a right to dictate in this matter to her who must pass through the ordeal of labor. If the woman prefers the family physician to the obstetrician recommended to her husband by friends, relatives, or neighbors, her wishes should be respected. Or if, on the other hand, she decides in favor of the obstetrician instead of the family doctor, there should be no interference. The faith which casts out fear, that indefinable sense of security which she feels in her chosen physician, supports her through the hours of confinement.

During the months of pregnancy the physician thus consulted will follow the changes in his patient and study particularly her nervous condition.

The nurse chosen should also be congenial to the expectant mother, who will depend upon her for assistance and comfort in the last trying hours before actual confinement. The engagement with the nurse should be so made as to insure her freedom to answer the call at least a week in advance. It is poor economy to let a nurse work on another case up to the last moment. Better to pay for a week of idleness and be in command of her services. To prevent misunderstanding, the date on which her pay is to begin, irrespective of the actual date of confinement, should be named definitely.

A few weeks before the date on which the confinement is expected the nurse should come to the house and make herself thoroughly familiar with the plan of the rooms, the water supply, closets, etc. There is nothing more trying for the expectant mother than to have a nurse arrive at the last moment, asking questions and locating needed articles, when she should be rendering service.

When the woman is confined in her own home, the nurse is engaged to remain at least two weeks after the baby is born, and three or four weeks, if the family purse will permit.

In cities the custom of going to a hospital for confinement is growing steadily. It is recognized that the hospital is cheaper, safer and more convenient. The sanitation is perfect, danger from infection is practically nil, and there are expert nurses and house physicians at hand should an emergency arise. It is cheaper because the hospital equipment is at the command of all patients; while, in the home, individual equipment must be bought outright. Moreover, if labor is normal, a special nurse is not required at the hospital, but the patient is cared for by the ward or corridor nurse.

There are women, however, for whom the hospital holds a terror which doctor, husband and friends cannot eradicate. Other women have a deep sentiment or home instinct. They do not want to be taken from the familiar environment

of their family. When the question has been placed before the woman in every possible light, and she elects to remain at home, undue pressure should not be brought to bear upon her. The result to her nervous and mental condition may be quite serious.

The room in which the mother will be confined at home should be the most comfortable, cheerful, and the best ventilated room in the house. If there is any room which has an open fireplace, this should be selected, as it improves the ventilation and makes the room cheerful. Two sets of shades, light and dark, should be provided; but heavy hangings, upholstered furniture and dusty carpets should be removed. Small, clean rugs on the floor, and simple, light furniture, which can be easily moved about, are preferable.

A strong single or three-quarter bed is better than the double size, and it should be so placed that it can be reached from all sides by the nurse and doctor. If it is possible to rent a high iron bed, such as is used in hospitals, the work of the doctor and nurse will be lightened. If this cannot be done, a bed of ordinary height can be raised on four strong blocks of wood.

There should be an ample supply of old soft night-dresses, either open all the way down the front or, better still, open in the back and tied at the neck with tapes. For the mother's convalescence there should be, especially in cold weather,

dainty short negligées or dressing-sacques in softly tinted silk and wool, albatross, or outing flannel.

For the home confinement the following equipment should be purchased under the direction of doctor or nurse:

One and one-half yards of rubber sheeting, 36 inches wide, or more—or ordinary white table oilcloth—to stretch over the mattress.
One 2-quart fountain syringe.
Two agateware basins, 11 inches and 16 inches in diameter, respectively.
Two agateware pitchers, holding one quart or more.
One slop-jar or covered enameled bucket.
One douche pan.
One nailbrush.
One medicine glass.
One medicine dropper.
Several cakes of castile or pure white soap.
One jar of vaseline.
Fifty bichloride of mercury tablets, clearly marked, for disinfectant purposes.
One ounce fluid extract of ergot, bought one week before confinement.
Pint bottle of chloroform.
Small bottle of brandy.
Quart bottle of alcohol for rubbing purposes.
Two dozen large safety-pins.
Two yards stout muslin for abdominal binders.
Two old sheets.
One dozen old soft towels.
One yard of bobbin, or very narrow tape, or braided silk, for tying the cord.
Twenty-five yards of sterile gauze.
Four rolls of cotton-batting.
Three pounds of absorbent cotton.

The ergot and chloroform need not be provided by the city mother, with the drugstore close at hand, but for the suburban or country mother their presence in the house, if the doctor is summoned hastily and there is no drugstore near by, may save confusion and perhaps futile errand running. Neither drug is to be used without the permission of the doctor, for, if chloroform is administered too soon, it may hinder the progress of labor. If given in too large a quantity it increases the possibilities of hemorrhage.

The gauze, cotton-batting and absorbent cotton are used for dressings for the bed. These may be made by the mother or the nurse. They must then be sterilized and put in an airtight box or drawer until needed. With great care they may be sterilized by dry heat in the oven, but as there is danger from scorching, steam is more satisfactory. The most convenient way is to utilize a washboiler, one-fourth full of water. The dressings are laid, first in loose cheesecloth bags, then in a hammock-shaped strip of muslin attached by either end to the handles of the boiler. The hammock should be swung high enough in the boiler so that it does not actually touch the water. The lid is fastened on tight and the steaming goes on for an hour. The dressings are then dried in the sun or in the oven. In the latter case great care must be taken or they will be scorched.

In preparing an outfit for the baby, it should be

borne in mind that this is an age of simplicity in dressing children; also that a baby outgrows its first clothes very quickly. The essentials for the new-born baby are:

Four abdominal bands of soft flannel, unhemmed, six to eight inches wide, twenty inches long.
Four shirts of wool and silk mixed, or wool and cotton, in size 2.
Four flannel skirts, hung from the shoulder, not made with bands to pin around the abdomen.
Four nightgowns or wrappers of outing flannel, which button in the front.
Three knitted bands of wool and cotton mixed, with shoulder straps.
Six white slips, made very simply.
Four dozen diapers, made of cheesecloth or a material known as stork diapering, which is much like Turkish toweling.
Three pairs of socks, if it is a summer baby.
Three pairs of long white merino stockings, if it is a winter baby.
One simple cloak, made of soft material.
One cap lined with silk.
Mittens for the winter baby.
One bath blanket, made from an old summer weight blanket.
Several crocheted, knitted, or flannel blankets.

Soft material should be used for making the baby's garments and neither lace nor embroidery should be employed around the necks and sleeves of the little slips, as they may chafe the tender skin and cause eczema. Cleanliness is the one demand for the baby until it has passed safely

through the first month of its life, when the mother may give more attention to its raiment.

In this day when cotton materials are highly mercerized and bleached, it is safest to wash the little garments made from them before they are worn by the new-born baby with its delicate skin. Diapers in particular should be washed, and dried, but not ironed. The necks of dresses or slips should be loose and tied with tape; buttons or fancy pins may cause discomfort to the baby.

Every woman knows that efficiency in all branches of home-making depends largely on having the proper tools. This is true in the nursery as well as in the kitchen. There is no more delightful occupation for the last two months before confinement than fitting up a nursery for the little guest. A modern nursery equipped with all the up-to-date appliances is not within the purse or even the house limitations of many mothers, but there is no reason why the new baby should not have its own corner in the house whether this be an entire room or just one end of "mother's room."

The expectant mother with a modern house, plenty of rooms, electric light, and running water, at her command, has half of the problem solved for her. She will choose for the nursery a room opening off her own, and convenient to the bathroom. This need not be large, but it should be well ventilated, and, if possible, have a southern exposure in order that it may be flooded with air

and sunshine. The walls should be painted, not papered, and the floor should be of hard wood or stained pine, never carpeted. A few rugs that can be washed or cleaned will be sufficient floor covering. It is better not to have a stationary washstand in this room, because, unless the plumbing is above suspicion, the pipes may breed germs.

There are two ways of providing against draughts: one of these is the use of a screen that can be placed around the baby's bed; the other is a wooden board, about five or six inches high, and long enough to fit the window when the lower sash is raised. The upper sash can then be dropped to let the impure air out, and the clean, pure air will enter the room between the upper and lower sashes.

The windows should have both light and dark shades. Babies stare at the light, and, especially during the first few weeks after birth, the nursery should be kept dark, or at least with only a dim light. The custom of hanging an old shawl or dark curtain over the window is not sanitary. At no time should the young baby's eyes be exposed to a strong light, either artificial light or sunlight. The crib should be so placed that the baby looks away from the light, not toward it. Protecting the baby's eyes from glare may mean guarding it from defective vision.

Except for very cold weather an open fireplace is the best possible method of heating the room.

When there is no fireplace, hot water heating is best for the nursery; as it is for the entire house. When steam or hot air is used, a pan of water, changed daily, should always be kept in the room to relieve dryness in the atmosphere. Air-tight coal stoves, gas or oil stoves should never be used in the nursery.

For the first week or so after the baby's birth the nursery should be kept at a temperature of 70° F. by day and 64° F. by night. As the child grows older, the temperature may gradually be reduced at night.

Electric lighting is the best for the nursery. If this is not a part of the equipment of the house, neither gas nor an oil lamp should be allowed to burn in the room at night; a candle or wax night light should be at hand. These can be bought at any house-furnishing store.

It is very important that the nursery should be fitted with screens to keep out flies and mosquitoes. Mosquitoes carry malaria, and the foot of a fly brings germs from the street, garbage and trash piles far beyond the limits of the most sanitary nursery. The nursery should furnish the baby's first protection from contagious diseases. It must be a veritable haven of safety. Therefore, no household work of any kind should be done in the room, such as washing or drying the baby's clothes. The floors and the furniture should be wiped daily with damp cloths. A dry cloth or

feather duster should never be used to scatter dust around the room.

Very important are the bath equipment, fully described in Chapter VIII, "Cleanliness and Health," and the baby's toilet basket. The latter is most sanitary when made of wicker, plain or enameled, and fitted with celluloid or ivorine boxes. Swiss lining, with lace-trimmed pockets and bows, soon soils and catches dust and germs.

The equipment of the nursery should include a crib of enameled iron, a low table, a screen, a closet or chest for the baby's clothing and supplies, a small clothes-rack, a pair of scales, and a low chair—a rocker without arms if the mother prefers it. If these are all painted white, they give the room a very sanitary appearance.

The crib should be supplied with springs, mattress—preferably of hair—a piece of India-rubber sheeting, and several cotton pads which can be washed, half a dozen cotton sheets, a pair of light woolen blankets—woven especially for cribs, or made from old blankets on hand, carefully washed and bound, or wide flannel by the yard finished with binding ribbon. The quilt should be of eider-down or a light-weight cotton-batting, covered with silk or silkaline. If the bed clothing is heavy, the baby will perspire and take cold more easily. A small hair pillow is better than feathers, and the pillow-slip should not be embroidered. It is far better to start the baby early in life sleeping

without any pillow at all. A hot-water bottle or bag, covered with flannel, should always be at hand for warming the baby's cold feet.

Many mothers cannot provide either a separate room or the modern equipment described; but a resourceful woman will supply admirable substitutes. If she can do no better, she will arrange one corner of her own bedroom for the baby. To make this sanitary she will follow the general plan of a bare floor, painted walls, and even sacrifice her ruffled curtains to the health of her baby. The baby's corner can be separated from the rest of the room by screens. A screen may be made from an ordinary clothes-horse, enameled white, and covered with heavy dotted Swiss or silkaline, which can be taken off and washed.

If the white enameled crib is beyond the family purse, there are several substitutes which can be placed on an ordinary table with the legs cut off a few inches. One woman whom I met at a contest had found an old kitchen table in the attic. Her husband first cut off the legs evenly and then inserted casters, painting the whole white. On this she placed an ordinary marketing basket, with the handle sawed off. This, too, was painted with white enamel. In it she laid a hair pillow, cut down to the size of the basket, and then added the usual protecting piece of rubber cloth, sheets, and bedding. This basket was closely woven, and when the paint filled all the cracks, it made a snug

little bed. If an open-work basket or an ordinary laundry basket is used, it may be draped on the outside with plain muslin, fastened with thumb tacks so that it can easily be removed and washed. Decorating the basket with frills of dotted Swiss over paper-muslin or silesia may give very attractive results, but it is not sanitary.

Another substitute for a crib is an ordinary packing box, which can be bought from any grocer or shoe dealer, scrubbed, dried and then painted white inside and out, and covered with muslin attached with thumb tacks.

If a feather pillow, instead of hair, must be used, it should be completely covered with rubber cloth or ordinary table oilcloth, because the feathers are heating and should be separated from the baby by the rubber.

If a good-sized basket or box is chosen, the baby can sleep in this until it is several months old.

On the day of baby's birth, his clothes-rack and toilet basket, a low chair, and a table with basin should be placed near the fireplace, stove, or radiator. On the clothes-rack hang the first garments he will wear. On the chair hang an outing flannel or soft woolen apron for the nurse, and the soft shawl or blanket in which the little newcomer will be wrapped directly after birth. The toilet basket should contain the following supplies:

Four dozen safety-pins in assorted sizes.
A roll of old soft towels.

Soft wash-cloths and squares of sterile gauze to be thrown away after using.
Talcum powder.
Castile or Ivory soap.
Very soft hair-brush.
Small bottle of olive oil.
Two-ounce bottle of boric acid.

Every item mentioned in these preparations for the baby's birth is important, as it bears directly upon sanitation, the comfort of the mother, and the safety of the child. This is no hour in which to take chances through false economy or procrastination.

Directly after the child is born and the navel cord has been tied, either the nurse or doctor should give attention to the baby's eyes. Science has proved that a large proportion of blindness is preventable, if prompt care is given to the eyes of new-born children. Hundreds of children are blind from birth through infection which might have been prevented.

The eyes of the new-born baby are generally closed and covered with mucus. This should be washed off very gently with absorbent cotton dipped in boracic acid solution, starting at the nose and wiping outward, without opening the lids. To remove any chance of infection which leads to blindness, or ophthalmia neonatorum, as it is known to the medical profession, the nurse then applies a few drops of antiseptic solution,

provided by the physician. For this purpose she uses a medicine dropper. So successful has been this treatment in reducing the percentage of blindness at birth, that many health boards, notably in New York, demand such precautions of physicians and midwives.

If for any reason the treatment is not given, the mother will do well to watch the baby's eyes for such symptoms as redness, swollen lids, and a slight discharge oozing from under the lids. If these symptoms appear, the parents should insist upon summoning a physician, for at this time prompt treatment may save the child's sight. Neglect may result in total blindness or, at best, permanently impaired vision.

The baby's eyes should be washed daily with boracic acid solution, the cotton or gauze used for this purpose being destroyed and never used a second time.

Next, the baby's skin should receive the nurse's attention. Before it is bathed, the entire surface of the body should be covered with olive oil or vaseline; after this process, the baby may be wrapped warmly in a blanket and tucked into a safe corner, while the nurse turns her attention to the mother. The baby need not be bathed until the mother has been made comfortable.

By this time the olive oil or vaseline has softened the cheese-like substance which encrusts the skin of the new-born baby. The nurse fills the basin or tub with water, which registers 100 de-

grees F., if a bath thermometer is used, or which will feel comfortably warm when she thrusts her bare elbow into the water. Making a soft suds with Castile or Ivory soap, the nurse then lathers the entire body, taking great care not to get soap in the baby's eyes. The soap is rinsed off with gauze or old linen and clear water, and the flesh is patted dry with old soft towels which have been warmed. The tender skin must never be rubbed. Talcum powder is then applied, and the baby is ready to be dressed in flannel binder, shirt, soft diaper, flannel skirt and outing flannel wrapper.

As the little body is indescribably tender and sensitive at this time, the nurse must handle it with exquisite care, always supporting the head and back and protecting it from draughts; she must be very careful not to let a strong light strike the eyes. If the baby is normally healthy and has been made comfortable, it now falls sound asleep. This is nature's way of permitting the mother to recuperate before nursing the baby for the first time. When the baby wakens, the mother will have regained her strength in that amazing way which is appreciated only by those who have watched her pass from the ordeal of labor into the joys of maternity as through a miracle. The baby should be given the breast when it awakens from its first sleep, and if there is any flow of milk whatever, no artificial food should be supplied. Thus does the baby start aright its splendid progress toward a normal, healthy childhood.

## CHAPTER III

## THE NURSING BABY

THE NURSING BABY—WHY THREE HUNDRED THOUSAND BABIES ARE SACRIFICED EVERY YEAR TO IGNORANCE—INFLUENCE OF THE MOTHER'S DIET ON THE BABY'S HEALTH—WHEN THE NEW-BORN BABY MUST BE BOTTLE-FED—A WELL-BALANCED DIET FOR THE NURSING MOTHER—CARE OF THE BREASTS AND NIPPLES—IMPORTANCE OF REGULARITY IN NURSING

CORRECT feeding is the foundation on which the baby's good health rests. A dirty baby, properly fed, will thrive. A baby deprived of fresh air, but wisely fed, will survive and even develop into a strong man or woman. But the baby raised according to the latest and most approved rules of sanitation and hygiene, if improperly fed, will languish and die.

If every mother who reads this book will grasp this vital fact and live up to the doctrine for which it stands, she will not only reduce the family doctor bills, but will protect herself from untold hours of trouble, sleeplessness, anxiety and, perhaps, grief. Correct feeding and good diges-

tion for the baby spell health-insurance. The well-nourished body of a properly fed child does not furnish an abiding-place for disease-germs.

Through watching the conferences between mothers and physicians at Better Babies Contests, I have come to realize that, while 75 per cent. of the ailments from which babies suffer can be traced to some form of stomach or bowel trouble, comparatively few women recognize symptoms of malnutrition or overfeeding for the menace which they really are. Many mothers seem to consider that a slight digestive trouble is almost as casual a feature of baby's career as teething.

At times I felt as if the doctors at the contests were introducing mothers to their babies, for hundreds of intelligent, affectionate, well-intentioned mothers did not really know their babies. Oh, yes, they knew Baby's name, the color of his hair and his eyes, the exact point where his cheek or his chin broke into a delightful dimple, the side of his family from which Babykins inherited his many good points and his few bad ones, the day when he first sat up or toddled across the floor; these and many other things the mothers knew, but still they did not know what was going on inside of Baby, in the digestive apparatus on which so much of his health and happiness depend.

At one contest, I saw a physician penalize an

attractive eighteen-months baby because of a rash. The mother protested.

"Why," she cried, "Baby has always had that rash. It's a sort of birthmark."

"No," answered the physician; "it's a symptom of rich food. You are either overfeeding this baby or giving him food that is too heavy, milk that is too rich for him to digest."

That mother learned how to modify milk.

Another mother presented a doll-like baby girl for examination, perfectly proportioned but under-weight, and under-height for its age. With silky curls and rose-petal cheeks, Baby leaned wearily against her mother, watching the doctors languidly from eyes around which there were blue circles. Think of that! Blue circles round the eyes of a baby that had not yet celebrated its first birthday!

It did not take the doctors long to analyze this baby's trouble and to introduce Mother to her child's true condition.

"Mrs. S——," said the doctor, "you are starving your baby."

The mother was shocked and hurt.

"I nurse her every three hours," she protested.

"No doubt," answered the doctor; "but your milk is not nourishing her. Perhaps you are not strong enough. Perhaps your baby should have both the breast and modified milk. We will find out."

They did. That mother learned that her baby was drifting toward the dangerous rock of anemia. Her lesson was how to alternate the breast milk with a bottle feeding of modified milk.

A third baby was what you would call a "fat boy." He was covered with the most "pattable" creases, and his complexion was blooming, but he had an ugly scowl on his round face and he shoved everything and everybody away from him as if the entire world were distasteful. Mother said he had never been a really good-natured baby, and she didn't know why. But the doctors found out. The plump stomach of which his mother was so proud was not an indication of health but of undigested, unassimilated food, overfeeding.

At sixteen months, a baby's head, chest and abdomen should measure just the same, 18½ inches. This poor little laddie had an eighteen-inch head, a seventeen-inch chest and an abdomen measuring twenty inches. And just by exploring with his finger, the doctor found an ugly little mass of undigested food down in one corner of that bulging abdomen. Of course, Baby wanted to shove people away. So do grown-ups when they have a sick headache or a bilious attack.

Here was a baby being overfed with milk, just milk, but milk not properly prepared.

And there you have it, rash, mal-nutrition, and indigestion, all because three mothers did not know what was going on inside of Baby's stom-

ach. Mothers often think that so long as Baby has milk and nothing else he is safe; but milk, even mother's milk, needs watching.

Nature provides signs when milk does not agree with the baby. Of course, if the baby could talk, mother would know exactly how he feels, because he could explain where the ache is located. But when one's means of communication is limited to wriggling, and rolling up the eyes, and emitting disturbed yaps, mother must look for signs or symptoms to take the place of worded complaints.

It is estimated that 300,000 infants under one year of age die in the United States each year. Of this frightful number, it is also estimated that fully 50 per cent. could be saved by proper care. Men and women who specialize in the care and feeding of infants affirm that practically all of these unnecessary, preventable deaths can be charged to improper feeding. Is it not vitally important, therefore, that every mother should make an earnest, unremitting study of infant feeding as health-insurance for her family circle?

The nourishment of the child begins before it is born. Ailments in digestion accompany it into the world. For this reason, in Chapter I, special stress was laid on diet for the pregnant mother. But it is not enough to bring the baby into the world blessed with a sound digestion. The mother must study the science of keeping her child's digestion sound.

Half her battle for baby's good health will be won if she nurses it. The natural, the almost unfailingly safe food for the new-born babe is mother's milk. The Creator, who made woman the mother of the human race, provided also the first means of nourishing the children brought into the world. The average woman has the strength to nourish her child in the natural way; and only a real physical inability, admitted by the family physician, should lead her to deprive the child of its rightful nourishment.

It is often said that the lack of maternal instinct in the modern woman is responsible for the large proportion of bottle-fed babies. I think that this charge against my sex is undeserved. Women are far more apt to stop nursing their babies as the result of ailments in themselves which they do not know how to cure or control, or because they accept the word of those who are not in a position to give medical advice or even offer common-sense suggestions.

Sometimes, directly after the baby's birth, when the mother is extremely weak, well-meaning but interfering relatives or neighbors urge her to wean the baby at once. So another baby's life is endangered and another mother is induced to undertake the grave responsibility of artificial feeding, when, with a little patience at the time of the baby's birth, the supply of mother's milk could be increased and strengthened.

The mother who suffers or has suffered from tuberculosis, epilepsy, persistent anemia, kidney disease, or any grave mental disturbance should not attempt to nurse her baby. If a fever, such as scarlet fever, typhoid, etc., develops shortly after the birth of the child, it must be weaned promptly. An operation which will greatly weaken the mother is another cause for discontinuing breast-milk. The reappearance of menstruation does not necessitate weaning the child; but pregnancy makes it desirable. Thus it will be seen that only the gravest conditions in the mother justify her in placing the new-born baby on the bottle until she is convinced by symptoms in the child itself that breast milk does not nourish.

The mother of her first-born, beset by a thousand fears, is very apt to regard the first flow of milk from her breast with suspicion. For two or three days it is a thin, colorless, watery fluid. The frightened young mother decides that it cannot possibly satisfy her baby. The very thought of the precious little creature being hungry terrifies her, and she accepts the advice of an untrained nurse or a fussy neighbor to give him sweetened water, or diluted and sweetened cow's milk. So the new baby starts life all wrong on artificial food, when the thin, watery fluid provided by nature is precisely what he needs at this time. Naturally, if he is fed artificially, he will not draw on

the breast, for he is not hungry, and so the flow of milk is discouraged. The new-born baby should be given the breast every four hours, whether he seems hungry or not, whether the flow of milk is established or not.

It is most important that at this time the mother should not worry. Nervousness and hysteria of themselves react on the baby's digestion.

As the mother gains strength and begins to move about, she should guard her health carefully, because upon this depend the quantity and quality of the milk she furnishes her baby. At this time she requires plenty of sleep; and while her rest is broken at night to nurse the baby, she should have regular naps during the day. Eight hours' sleep at night and a short nap in the middle of the afternoon form a good rule.

As far as possible, she should lead what, to her, is a normal life, free from excesses or any wide deviation from her habits before the birth of the baby. Unhappiness and discontent unsettle the nerves of the mother and injure the quality of the milk. The woman who is accustomed to much outdoor exercise should not shut herself up in the house, nor should the woman of sedative habits plunge into violent outdoor exercise. The latter needs fresh air as a mother, precisely as she should have had it as a girl, but she should form the habit gradually, not start with exhausting walks. Moreover, the woman who is fond of society and

accustomed to going out, should not deprive herself of all social pleasures because she has become a mother. Within reason, she should enjoy them. The moment motherhood becomes a hateful burden, an altar on which the woman sacrifices all personal preferences and pleasures, the drastic changes entailed affect the health of the mother and react on the child.

The same is true of diet for the nursing mother. Deprivation and excess alike are undesirable. A well-balanced diet, made up from a variety of foods which the mother craves under normal conditions, will nourish both the mother and the child.

In this connection, the young mother should be warned against what might be termed superstitions in diet, "old women's tales." While attending Better Babies Contests, I have often been shocked at the superstition and ignorance which interfere with the nourishment, comfort, and contentment of the nursing mother. One young mother said that she was drinking malt to make her milk more nourishing for the baby. And how she did hate that malt! It nauseated her every time she drank it.

When the doctors told her that anything which nauseated her would affect the baby in the same way, she was actually relieved. Yet she had been forcing herself to drink the malt, because an elderly neighbor told her what wonders it had done

for other women. Doctors, not neighbors, should be consulted on these problems.

Another woman told me that she did not see why her baby could not retain her milk. It curdled on his stomach. And she assured me quite solemnly that she never ate anything acid. She did love pickles, salads and lemonade, but her nurse had told her she must not eat sour things while she nursed the baby. I heard the sensible doctor in charge of that contest tell her to go straight home and make herself a good fresh salad.

Her digestion craved acid, and her child actually suffered because her system was denied it. Excessive indulgence in acids, as in anything else, would not be good for the mother or the baby; but, well balanced with other foods, sweet pickles, properly sweetened lemonade, and salad dressing prepared with plenty of good olive oil, would not hurt this mother.

The same judgment must be shown in the matter of drinking. The woman of German parentage and customs should not give up the moderate use of beer to which she has been accustomed; but, on the other hand, the woman who is not accustomed to drinking beer, and does not care for it, will not improve the quality of milk for her child by forcing herself to drink beer. The Italian mother, habituated to the use of light wine with her meals, would miss it sorely if deprived of it while nursing her child; but the average

American would find it stimulating only. The woman who drinks coffee and tea in moderation may increase the supply of milk by drinking to excess; but the milk will not gain in quality, and her nerves will suffer from overstimulation. Milk, cocoa, and chocolate in moderation increase the quantity of milk and improve the quality, except in the rare cases where the mother cannot digest them. The woman who can sip gruel, plain or with cream, will find the supply of breast milk gaining in both quantity and quality; but when the gruel is disliked, when it actually nauseates the mother, it does not have a good effect on the milk.

In fact, sanity, good judgment, ordinary common-sense, should govern the planning of diet for the nursing mother. It should include cereals, soups, meat at least once a day, fish, eggs, macaroni or spaghetti, fresh vegetables, salads, fruits, and light, wholesome desserts. The fresh vegetables and salads prepared with olive oil are particularly good, as they prevent constipation. Stewed fruit is better than fresh, especially when the fruits are highly acid. No dessert like pies, pastries, or puddings made from heavy dough, which are apt to lie undigested on the stomach, should be eaten; but custards and all desserts with fruit for a foundation are desirable. Nuts are highly recommended by vegetarians, but they must be well chewed.

The nursing mother must bear in mind that she is eating for two. If she depends upon the three daily meals served to the balance of her family, she is apt to become very hungry and to overeat at the table. It is better for her to eat wisely between meals, in the mid-morning and mid-afternoon. These lunches should consist of milk, cocoa, a cup of soup or gruel, or a little stewed fruit, with zwieback or toast. Crackers do not make more or better milk. The nursing mother who must prepare breakfast for her family should eat a little fruit, or a slice of bread, or drink milk, before taking up her task, and she should also have a nourishing drink just before retiring.

The busy house-mother who is nursing her baby is particularly warned against nursing the child when greatly exhausted. It is far better to keep the baby waiting a few minutes, while the mother sits down and rests or sips a glass of milk. Nursing a baby when overtired or overheated, or extremely nervous and angry, is positively injurious and unjust to the child.

Of the utmost importance in regulating the condition of the baby's health through breast milk is the condition of the mother's bowels. These should move once daily and, if possible, the movement should be natural. Drastic cathartics disturb both mother and child. If constipation in the mother does not yield to careful diet, in-

cluding fresh vegetables and fruit, she should consult her physician and not dose herself. If the mother's bowels are in good condition and the baby's are not, the physician should be consulted about the baby.

The care of the breast and nipples is extremely important, for many ills, notably the very painful abscess of the breast, may spring from lack of cleanliness. The tugging of the baby's mouth on the nipple makes it soft and tender, often laying it open in tiny cracks which are easily infected. The nipple, therefore, should never be handled by mother or nurse unless the hands have first been scrubbed with soap and a nailbrush.

Not only for cleanliness but for hardening them, the nipples should be washed after each nursing with a solution of boracic acid and very hot water, in the proportion of one teaspoon of the acid to one pint of water. When thoroughly dried with soft old linen or gauze kept for the purpose, they should be covered with a piece of sterilized gauze to prevent any possible infection from clothing. If, in spite of all these precautions, the nipple shows cracks or fissures, and nursing becomes torture, the baby must not be permitted to suck at the nipple, but a nipple shield should be used. There are various kinds, the best being of glass with a rubber nipple on the end. When the nipple is as sore as this, boracic acid in solution will not effect a cure. Zinc ointment

must be used instead; but only when the nipple shield is used, never when the baby's mouth touches the breast.

Another aid to baby's digestion is regularity in feeding. Directly after birth, the feedings should be regulated by the doctor and the nurse, who are better able to determine the strength and needs of the baby. If it is a normal, healthy child, for the first few days it will spend most of its time in sleep, but it should be given the breast at least once in four hours. A small, weak baby should nurse once in two hours, between 6 A.M. and 10 P.M., with one nursing in the middle of the night between 1:30 and 2:30.

After the first week, a strong baby may be nursed every three hours, between 6 A.M. and 9 P.M., with one night feeding. At three months, a healthy baby is nursed every three hours, and at four months the night feeding is dropped. That is, he is not nursed between 9 P.M. and 6 A.M.

Feeding a baby every time he cries is bad for both mother and child. It ties the nursing mother to her baby's side. It injures the baby's digestion. It is the first misstep in molding the baby's character.

If, in spite of the care here outlined for mother and baby, the child does not thrive on breast milk, the cause must be ascertained and artificial feeding must be considered.

# CHAPTER IV

## ARTIFICIAL FEEDING

WHEN ARTIFICIAL FEEDING IS NECESSARY — WEIGHT THE TEST OF PROPER NOURISHMENT—COW'S MILK, CAREFULLY MODIFIED, IS THE BEST SUBSTITUTE FOR MOTHER'S MILK—SOURCE OF SUPPLY AND CARE—CARE OF THE BOTTLES AND NIPPLES

SUCCESSFUL artificial feeding of infants is one of the big problems which the medical profession strives unceasingly to solve. It has never found a perfect substitute for mother's milk, but it has greatly reduced the rate of infant mortality, due to artificial feeding, by working out formulas that combine the food properties provided by breast milk. And not the least valuable result of its investigations has been the agitation for pure milk supply, the sanitary care of milk and dairies.

Any mother who has followed the reports of pure milk commissions, and heard the talks and lectures given by specialists in infant feeding, must realize the tremendous chance she takes in weaning her baby. Therefore, she will not take

the step unless convinced that her milk positively disagrees with her child.

The most important test is the child's development or lack of development, gain or loss in weight. This cannot be determined during the first week, for the average normal child loses from four to eight ounces during the first six or seven days of its life. Thereafter it should gain at the rate of from four to eight ounces a week, until it is six months old. After that the gain per week runs from two to four ounces, until the child is a year old, when the first danger-period of feeding is past.

During this time—and, in fact, throughout its childhood—an accurate record of its weight and measurements should be kept by the mother. For this purpose, the well-equipped nursery should contain a good pair of scales and a measuring board. The scales should record at least forty pounds. They are of the platform, not the spring, variety, with a basket for holding the baby while it is small and helpless. Later, when the child is able to sit up, the basket is replaced by a pad.

The measuring board used at the Better Babies Contests is a great convenience and can be made by any carpenter. It consists of a smoothly planed board forty inches long and eleven inches wide, with a firm, upright headpiece, and a sliding footboard which runs on grooves on the outer edges of the board. On one of these edges is tacked a

steel tape, in the inch-scale. The baby, up to eighteen months of age, is laid on the board with the back of the body touching the board all along, from head to foot. The nurse makes sure that the little head is placed firmly against the headpiece. Then, while the mother or some other assistant holds the baby's knees firmly in place, the nurse adjusts the sliding board until it touches the flat soles of the baby's feet. The child is then lifted up, without moving the footboard, and the measurement is read from the tape where the footboard stops.

After the child is eighteen months old it is measured standing. For this purpose the board is reversed. The firm headpiece is placed on the floor for the child to stand on, and the sliding footboard is brought down to touch the top of the child's head.

After its third year, the child may be measured according to good old nursery tradition, by a pencil mark against the woodwork.

Measuring a baby with a tape-line is not accurate. While the height is not so important a factor as the weight in determining the development and especially the nutrition of the baby, it should be watched; and this measuring board, which represents an investment of only a dollar or so, will be found very useful.

The baby that is thriving on mother's milk should show a gain of at least two pounds at the

end of thirty days. The baby which weighed seven pounds at birth should weigh nine pounds when one month old; ten and one-half pounds at two months; twelve pounds at three months. When the gain is less than these figures, the baby's diet needs attention. The following symptoms point to the fact that the mother's milk does not agree with the child:

(1) Excessive vomiting, with loss of weight or no increase of weight for two weeks or more.

(2) A persistent diarrhea, with loss of weight or no increase of weight for two weeks or more. If there is a progressive gain in weight, however, loose bowels are not a danger signal.

(3) Steady loss of weight extending over a period of three weeks or more, in spite of the fact that otherwise the child seems normal.

Sometimes the trouble can be corrected by a change in the mother's diet; and this must be discussed with the family physician. Sometimes the mother is too much exhausted by household duties to provide the amount and quality of milk needed to nourish the child. If it is possible to lighten the mother's burdens, and thereby strengthen the breast milk, this is better economy than investing in bottles and artificial food.

If, in spite of the doctor's efforts to build up the mother's strength and improve the quality of the breast milk, the baby does not thrive, then mother and doctor together must work out the problem of artificial feeding.

The scientific and successful raising of a baby on the bottle depends upon two distinct lines of care and caution: the selection of the food to be supplied, and the care of the bottles. The best of food in an unsanitary bottle or drawn through an unclean nipple becomes dangerous to baby's health.

In choosing artificial food for your baby, remember that even physicians differ on this question. Most American specialists for children insist that fresh cow's milk, properly modified, is the only substitute for mother's milk. European authorities recommend goat's milk. And there are other recognized authorities on baby-health who have found it advisable to prescribe for delicate bottle-fed babies a combination of milk and patent food. Not only must the mother consult her family physician on this question, but, with the physician, she must watch the effect of the chosen food on the baby.

Vomiting, restlessness, sleeplessness, and the condition of the bowels, all tell the tale of food that is not being assimilated.

In this connection the inexperienced mother must understand that there are two forms of vomiting in the young baby; or, more properly speaking, there is a difference between vomiting and regurgitation—slight, to be sure, but worth watching. Regurgitation is merely the overflow of milk when the baby has taken too much. It

follows almost immediately upon having the breast or bottle taken away, and the milk is in practically the same condition as when it entered the stomach. But when the baby vomits habitually after feeding, and the milk is curdled or tough or sour, there is something wrong with the bottle diet.

The bowels are a sure indication of the way in which the bottle diet agrees or disagrees with the baby. When the passage is hard and bullet-like, when it shows curds or white lumps like cheese, or when mucus is present or there is diarrhea, the mother may be sure that the food does not agree with her baby, and the doctor should be consulted immediately.

No medicine should be given in such cases without consulting a doctor. What the baby needs is not dosing, but the right sort of food, the food its stomach will digest.

At one contest in the midwest the mother of a little prize winner told me that, at eleven months, she almost lost her baby. She had changed diet time and time again, varying from certified cow's milk to a well-known patent food. The baby was reduced to a skeleton when the physician decided to try not milk, but cream, diluted with barley water. The change in baby's condition was immediate, and it continued to thrive without further change of diet. On the

other hand, some babies fed on this modified cream would not thrive.

Frankly, feeding a baby deprived of breast milk often resolves itself into an experiment; but an experiment which must be conducted in an intelligent manner, with the advice of a physician. Do not consult your neighbor, no matter how many babies she has raised successfully. The bottle food which was nourishment to her babies may be poison to yours. There are no hard and fast rules for bottle foods. Each baby is a case unto itself and requires the most delicate attention and unrelenting vigilance. Even two babies in one family may require different forms of artificial nourishment, or at least different modifications of cow's milk.

Perhaps there is no phrase familiar to the maternal ear which is so generally misunderstood and abused as "modified milk." It is confused with sterilized, pasteurized, and condensed milk, and with patent foods. In reality the phrase means any milk, other than mother's milk, so modified by the addition of elements like water and sugar as to bring it as near as possible to the quality of breast milk.

The substitute for mother's milk most generally approved by American pediatrists or specialists in the care of children is cow's milk, carefully modified.

The safety of the child that is to be fed on

modified cow's milk depends largely upon the source of milk supply. The mother should acquaint herself with this source of supply and the conditions under which the cows are housed and milked. If you had to hire a wet nurse, you would not choose a tubercular or personally unclean woman. Why permit your baby to drink milk that comes from a tubercular cow, or one which is milked in a filthy stable?

If you live in a city, write to your department of health or your health officer for information regarding properly inspected dairies. If no such information can be furnished you, then it is high time that you started a campaign for dairy inspection in your town. If you live in the country, find a dairyman or a neighbor whose cows will stand the test and whose stables are clean. Do not buy baby's milk at a grocery-store or dairy whose source of supply you cannot trace.

Cow's milk which comes from a herd of healthy cows, or at least several cows, is preferred to that which comes from a single animal, as it varies less in quality and elemental proportions. It is not necessary to order rich milk from highly bred Jersey and Alderney cows. In fact, physicians agree that the milk produced by ordinary grade cows in the herd is better suited to the needs of the child. You should be quite sure, however, as to the age of the milk. In cold weather it must not be fed to the child after it is

forty-eight hours old. In summer it should never be more than twenty-four hours old.

In nearly all large cities are now found agencies of dairies which specialize on milk for infants. This is sometimes known as certified or guaranteed milk. The cows from which it is drawn are carefully inspected, the stables and milkers are clean, all the utensils, pails, cans, etc., are sterilized before use, and the milk is cooled immediately after it is drawn from the cows and kept at or near a temperature of 50° F. until delivered to the purchaser. Milk produced in this way saves the mother anxiety and trouble. It costs only a few cents more a quart than milk which is not certified.

When certified milk is received in the home, the stoppered bottles should be placed immediately in the refrigerator or set in a pail of ice-water to remain until it is modified for use during the next twenty-four hours.

The city mother, with her stationary refrigerator and convenient ice supply, has no possible excuse for not keeping the baby's milk in perfect condition. Some of the new refrigerators have separate compartments. One of these should be used for the baby's milk. In many well regulated homes you will find special nursery refrigerators which can be bought at any department or house-furnishing store. These have their own supply of

ice and nothing but the baby's milk is stored in them.

The small town or country mother, whose ice supply is irregular and who depends upon an old-fashioned ice-chest or perhaps a spring or cool well for chilling the baby's milk, faces a more difficult problem. It is especially important that she keep the milk bottle tightly stoppered. If she uses the old-fashioned ice-chest, where food and ice are not separated and where germs lodge easily, she had best pack the stoppered bottles in a covered pail and set them next to the ice. If she has no refrigerator at all, she should induce her men-folk to provide a substitute, if it is only one strong wooden pail set within another, the sawdust and ice packed between. Then she can thrust her stoppered bottles into the inner pail, cover all with heavy felting or burlap, and feel tolerably safe.

At one of the contests a mother told me how sad experience had taught her the importance of having such a safeguard in her home. With her first baby she kept the milk in a tin pail, hung in the cool water of an old well. The milk absorbed germs and the doctor traced the baby's death from acute bowel trouble to these germs.

Next in importance to the supply and storing of milk comes the care of the utensils for modifying it and feeding it to the child. These should be kept in a sanitary condition that is absolutely

above suspicion. If the mother herself does not take charge of this task, she must delegate another member of the family or a servant upon whose faithfulness she can depend. The supply of milk for the ensuing day should be cared for at a certain hour each morning, soon after the milk is delivered. The utensils should be used for this purpose alone, and should not be kept in a cupboard with ordinary cooking equipment.

For the ordinary modifying of milk the following utensils are needed:

A strong measuring glass, holding sixteen ounces, divided into ounces, which can be bought at any hospital supply house and in many department and drug stores; a two-quart pitcher with a wide neck; a glass funnel, which fits easily into the neck of the nursing bottle; an enameled tablespoon; an enameled saucepan for boiling the water or gruel; a quart glass jar, with an airtight cover, in which the boiled water or gruel is set away until it is cool; a wire rack, which will hold eight or ten nursing bottles; eight or ten plain, round, cylindrical bottles with a narrow neck; a half dozen plain nipples of a size to fit around the neck of the bottles; a long-handled brush for washing the bottles; soap, washing-powder and borax for cleaning purposes.

The shape of the bottles is extremely important, for a round bottle offers no corners in which germs can lodge; square bottles have this disadvantage.

The number of the bottles is governed by the number of feedings in twenty-four hours, one for each feeding. The wire bottle-rack protects the bottles from breakage and is an economical investment. The nipple changes in size with the age of the baby; for the small baby care should be taken that the nipple is not long enough to choke the baby and make it vomit.

The size of the hole in the nipple also is important. If it is too small the baby has to work too hard for its nourishment. If the hole is too large the baby will gulp the feeding, which may cause colic, indigestion, or vomiting. Test the nipples by holding the filled bottle in a horizontal position and watch how the milk drops from the nipple: the drops should be an inch or more apart.

New bottles and nipples should be put into a cheese-cloth bag and then into boiling water to be sterilized before using. After the baby has been fed, the bottle should be washed out with the long-handled brush with soap or washing-powder. When the soap has been rinsed out with hot water, a teaspoonful of borax and a little warm water are turned into the bottle and shaken vigorously. When the borax is dissolved, the bottle is filled to the brim with water and permitted to stand in this way until needed the following morning. When the borax solution has been thrown away and the bottles rinsed with clear

water, they are ready for use. It is not necessary to boil bottles cared for in this way; and borax will be found a more satisfactory antiseptic than the bicarbonate of soda which the average mother uses in cleansing her bottles.

The nipples must be cleansed with equal care. After the feeding, a pinch of borax should be dropped into the nipple, then a little water added and the nipple gently rubbed between the thumb and fingers. It is then rinsed out and laid on a clean saucer, with a clean glass turned over it, to protect it from dust.

It is a time saver to prepare the boiled water or gruel several hours before it is to be used for modifying the milk—even the night before. It can then be placed in the quart jar, tightly covered, and set in the ice-chest.

Now comes the important hour for mixing the food. The bottles are emptied of the borax water and turned upside-down in the wire rack to drain. Next they are filled with hot water for rinsing out the borax, emptied and again turned upside-down in the rack to drain. By the time the food is mixed the bottles are cool enough to fill.

In mixing the food the process is the same whatever the proportion. The bottle of milk is turned into the pitcher so that the cream will be mixed in well. It is then poured into the glass measure and, when the right amount has been secured, it is poured back into the emptied pitcher. Next

is measured the boiled water or gruel, and this is then turned into the pitcher. The sugar must be measured very carefully with a tablespoon. If a level spoonful is ordered, it must be leveled off carefully with a knife. A heaping spoonful means all that the spoon will hold. Stir the mixture together—milk, gruel or water, and sugar—until the last is dissolved. Now, using the funnel to avoid waste, pour into each bottle the exact amount of this modified milk which has been prescribed for a single feeding. Cork the bottles with rolls of clean absorbent cotton, set the bottles in the wire rack, and place it in the ice-chest.

As the hour for each feeding approaches, one of these bottles is taken from the ice-chest, placed in a pan of hot water, or in any patent bottle heater, to be warmed for the baby's use.

It will be seen that by following this process the milk is never touched by any hand, and if the utensils are kept immaculately clean, there can be no danger from germs or contagion. And right here a word of caution: After keeping the nipple in borax water, do not test the heat of the milk by tasting it through the nipple. Never put the baby's nipple in your own mouth or allow any one else to do so. The food should be what is known as body temperature, and it can be tested by letting a little drop upon the bare forearm. Remember that a baby's mouth

is very tender and easily burned. Never give the baby the bottle without testing the temperature of the food.

It should take about twenty minutes for the baby to drink the prescribed amount of either breast milk or artificial food. In cold weather it is a good idea to cover the bottle with a little flannel or crocheted bag, to keep it warm until the last drop is drained. Food which becomes chilled may cause colic.

# CHAPTER V

## FORMULAS FOR ARTIFICIAL FOODS

FORMULAS FOR MODIFYING MILK—MILK SUGAR, CANE SUGAR, OR MALT SUGAR—HOW TO TELL WHEN THE BABY IS PROPERLY NOURISHED—LIME WATER IN THE MILK—CONDENSED MILK—PATENT FOODS

FORMULAS for the preparation of artificial food for infants will some day form a vital feature in the practical education of girls for motherhood. Chemistry, physiology and dietetics, all subjects which are taught to young women in high schools and colleges, will contribute to a better understanding of this very important subject.

The mother who is able to nurse her child has no conception of the difficulties which confront her sister or neighbor who must raise a baby on the bottle. She should be profoundly grateful that she is spared the study and working out of food formulas by the gracious dispensation of Providence which supplies her child with the natural form of nourishment. Certainly no woman who reads the chapters of this book, devoted to

the sanitary and scientific care required to carry a baby through the period of bottle feeding, will wean her baby unless such a step is absolutely necessary.

The mother whose family physician has specialized in diseases of children and infant feeding has half the battle fought for her. The physician who has made a study of artificial feeding knows exactly the proportions necessary for producing a nourishing modified milk, and the quantity to be given at each feeding. But there still remain all over the country a large number of busy and successful general practitioners who have given little or no study to formulas for infant feeding, a condition fortunately due to the fact that the majority of the mothers whom they attend nurse their babies.

Again many mothers are so situated, geographically and economically, that they cannot place the baby to be artificially fed under the constant supervision of a physician. It is for such mothers that this chapter has been written, and the material which it contains represents the best ideas of men who have long specialized on the feeding of infants.

These physicians have decided that the simple formula which includes plain cow's milk, with the cream stirred in, water and sugar, is the best substitute for mother's milk until the baby has passed its sixth or seventh month. Then barley or oat-

meal gruel may be used instead of the water. Cream, top milk, whey, lime water and patent foods should not be used except with the approval of a physician. The mother who finds herself forced to work out alone the problem of artificial feeding, should give the simple formula a thorough trial before trying more elaborate experiments, and, above all things, before taking the advice of her neighbors.

Mother's milk is composed of thirteen parts solids and eighty-seven parts water. The solids are fat, sugar, proteids and salts. The fat is represented by cream; the sugar by lactose or milk sugar; the proteids by the milk-curd. The fat encourages bone growth and fat in the baby's body; it produces heat and is good for the nerves. The sugar also produces fat and heat and has a laxative effect on the bowels. The proteids go to make body cells in the blood, the muscles and the various organs. The salts are needed for bone-making. The water serves two purposes: it keeps the solids in solution so that the food can be easily digested; it forms the medium through which the body throws off its waste material.

Formulas for artificial food should follow the proportions found in mother's milk by expert analysis. Plain cow's milk unmodified is too rich in solids to be given to an infant. On the other hand, the nursing baby, or the baby fed on properly modified milk, does not require much plain

water, as it receives an ample supply of water in its feedings to quench thirst and keep the body in good condition.

For the baby which is to be artificially fed at one month or less, plain cow's milk, boiled water, and malt sugar form the best possible combination.

Milk sugar, once very popular with dietitians, has been condemned by specialists in infant feeding. Cane sugar is preferred to milk sugar, and pediatrists recommend most highly the Dextri-Maltose, or malt sugar, manufactured by Mead, Johnson & Company, Jersey City, New Jersey.

Having decided on these ingredients, the next problem is their proper combination in correct proportions. These are governed by the baby's weight. In twenty-four hours a baby should be fed twice as much plain cow's milk in ounces as he weighs in pounds; this means that a baby weighing twelve pounds should be fed twenty-four ounces of plain cow's milk in twenty-four hours.

In preparing this quantity of cow's milk for the baby's consumption, it must be borne in mind that this milk contains only half as much sugar as mother's milk, while it holds three times as much proteids and salts, and both the proteids and the fat are less digestible than those found in breast milk. This explains why water must be used to dilute the heavier cow's milk. For the

new-born baby the following proportions are recommended when what is known as plain milk is to be used:

Four ounces of milk.
One ounce, or two rounded tablespoonfuls, of Dextri-Maltose.
Sixteen ounces of boiled water.

In two or three days this formula may be changed to:

Five ounces of milk.
One ounce, or two rounded tablespoonfuls, of Dextri-Maltose.
Fifteen ounces of boiled water.

If the baby is digesting this food without trouble, about the tenth day, increase the milk by one ounce and decrease the water by one ounce.

A normal child, with whom modified milk agrees, is able at the end of a month to digest its food in the following proportions:

Eight ounces of plain milk.
One ounce, or two tablespoonfuls, of Dextri-Maltose.
Twelve ounces of boiled water.

At seven months the baby is ready to have gruel combined with the water and the milk in the following proportions:

Nine ounces of plain milk.
One and one-half ounces (3 tablespoonfuls) Dextri-Maltose.
Five ounces of water.

Six ounces of gruel—made as follows:
Two tablespoonfuls of prepared barley, wheat, or oat flour; smooth with cold water; have ready one pint of water boiling hard; add a pinch of salt; stir in the smoothed flour; cook for thirty minutes in a double-boiler, and strain through a hair sieve. Add enough boiling water to make a pint, and set it away to cool.

At ten months the child is taking modified milk in these proportions:

Thirteen ounces of plain milk.
One heaping tablespoonful of Dextri-Maltose.
Six ounces of thin gruel; no water.

Milk thus modified can be given to the child until it is one year old.

Between the first and the seventh month the increase in the amount of cow's milk and the decrease in the amount of boiled water will depend entirely upon the condition of the child's digestion. After the first month the increase in cow's milk should be made quite gradually, and several days should be permitted to elapse after each change, to watch the effect upon the digestion.

The child himself furnishes a pretty fair indication of when the strength of the food should be increased. If he drains the bottle rapidly and cries when it is taken from him, or if he begins to fret anywhere from an hour to half an hour before his feeding time, and if he constantly sucks his fingers in hungry fashion, either the quantity of the food or its strength must be increased.

If the food is already too rich for the child, this is shown by indigestion, vomiting, diarrhea, or constipation. The increase in the strength of the formulas should be at the rate of half an ounce or less in three days or more for about a month after artificial feeding begins; then a greater amount of time should be permitted to elapse.

The increase in quantity should be at the rate of a quarter of an ounce at each feeding, made at intervals of four to seven days, according to the growth and appetite of the child. It will be noticed that there is a more rapid increase during the first month of the child's life than at any other time. This is because exquisite care must be taken to start the child on the most delicate form of artificial food. Then, if modified milk does agree with the infant, it thrives and demands artificial food of increasing strength, precisely as the mother's milk gains in strength as she gains in health and energy after her confinement.

It will be recalled that mother's milk up to the fourth or fifth day is practically sweetened water on which the baby thrives. The child's digestion is not injured when the flow of mother's milk is suddenly established and becomes rich. In planning the diet for a bottle-fed baby, those who have given the matter study follow as closely as possible the rules laid down by nature in supplying breast milk.

These are the simplest and most reliable of formulas with plain milk as the foundation.

The use of cream and top milk in the place of plain milk seems to be purely a matter of difference of opinion between medical authorities. If the top milk is used, the quantity of boiled water used in modifying it must be greater, and gruels are added at a much later date.

A question frequently brought up at contests was that of adding lime water to modified milk. This, too, represents a difference in medical opinion. Dr. L. Emmett Holt, one of the first American specialists in the care and feeding of children, advises that one ounce of lime water be included in every twenty ounces of modified milk, to correct acidity in cow's milk. Dr. Roger H. Dennett, Professor of Pediatrics at the Post Graduate Hospital, New York City, does not consider lime water essential to a successful formula. Other authorities differ in the same way. The mother who feels any anxiety on this score will do well to consult her own physician, who can study at first hand the general condition of the baby, its appearance, the stools it passes, and what it may vomit if the artificial food is not properly digested.

There are almost as many feeding tables in existence as there are specialists in the care of children. This is another question where hard and fast rules cannot be laid down. But here are

some general tables which have borne the test in families where artificial feeding is a stern necessity:

Any baby weaned under three months of age should have bottle feedings as it would have had breast feedings, at intervals of every two hours between 6 A.M. and 10 P.M. It should also have one feeding in the night between one and two o'clock. This represents ten feedings in twenty-four hours, up to the time the child is three months old.

The quantity to be supplied at each feeding varies with the baby's age:

During the first week the baby should be given one and one-half ounces at each feeding. This, with ten feedings in twenty-four hours, means from ten to fifteen ounces of nourishment a day.

During the second week the amount at each feeding is raised to: 2 ounces, or 20 ounces in twenty-four hours.

Third and fourth weeks: 2½ ounces for each feeding.

Second and third month: 3 ounces for each feeding.

During the fourth month the table of feeding changes. The child is now fed every two and one-half hours from 6 A.M. to 9 P.M., with one feeding between 1 and 2 A.M. Four and one-half ounces at each feeding, or 36 ounces in twenty-four hours.

During the fifth month the feedings are still farther apart; every three hours between 6 A.M. and 9 P.M., and one feeding in the night. Five and one-half to 6 ounces at each feeding.

So, from month to month, the feedings are a little farther apart and each feeding a little heavier.

At five months, if the baby is strong, the night feeding may be omitted. At eight months the baby is fed six times a day, at three-hour intervals, eight ounces of food to the feeding.

It must be understood that the feeding tables here given are planned for a normal, healthy baby. The sickly baby, or the child whose digestion is very poor and whose appearance denotes malnutrition, should be placed under the care of a physician who is capable of planning special diet.

Only in case of emergency is the baby weaned within a day or so after birth. As a rule, the mother attempts to nurse the child, and weans him only when she realizes beyond all question that her milk is not sufficiently nourishing. In such cases it is not necessary to wean the child abruptly; the feedings can be alternated, breast and bottle. In this way certain properties in the mother's milk correct possible ill-effects on the digestion from bottle feedings. Moreover, the mother sometimes gains in strength, the milk improves and the bottle is then given at rarer inter-

vals. When it becomes necessary to wean the child completely from the breast, because of its age, or pregnancy in the mother, half the battle has been fought in accustoming the child and its digestive apparatus to the bottle food.

A question frequently asked by mothers is this: "What is the difference between pasteurized milk and boiled milk, and which is better for the child?"

Pasteurizing milk consists of heating it to a temperature varying from 155° to 175° F. in apparatus specially made for this purpose, which can be bought at prices varying from four to eight dollars through dealers in surgical instruments. Directions come with the apparatus. To pasteurize milk without an apparatus, fill the bottles with milk, cork them with sterile cotton wool, set in a pail, fill the pail with boiling water, cover it tightly and set aside for forty-five minutes; then cool the bottles rapidly and place them on the ice.

Boiling milk—or sterilization, as it is known to medical men—means keeping the milk at a boiling point for at least one hour in a double-boiler. The utensil containing the milk is then set in ice-water so that it will chill in twenty minutes or less. The milk is next poured into clean bottles, corked with sterile cotton wool, and placed on ice.

The milk to be fed to babies should be pasteur-

ized or boiled when there is doubt as to the source of milk supply; also when there is an epidemic current, such as typhoid fever, diphtheria, etc. Both processes are supposed to kill bacteria, boiling being more effective than pasteurization.

It is far better for the baby's health, however, to secure certified milk than to treat it as described above. Boiled milk may be given to a baby during the first two or three weeks of its life, also to babies suffering with diarrhea and other acute digestive disturbances. But the child who is fed for a great length of time on boiled milk receives no fresh food, and is therefore subject to scurvy.

If, for any reason, the mother feels that it is necessary to feed her baby the boiled milk, she may counteract the effects on a child, three months old or more, with the strained juice of half an orange, morning and evening.

Particularly in mining towns, mothers must depend upon condensed milk as artificial food for babies. While it is much better to use fresh cow's milk, if it can be secured, the condensed milk is preferable to stale cow's milk. If a reliable brand is secured, the mother is buying fresh milk which has been sterilized and then evaporated. A can of condensed milk is equal to about three times as much whole or plain milk, sweetened with cane sugar.

When the child must be placed on condensed milk practically at birth, the milk should be di-

luted in the proportion of one level teaspoonful of condensed milk to sixteen spoonfuls of boiled water. This gives a very weak and watery solution, and the young mother is apt to think it does not contain enough nourishment for her child. But she should bear in mind that mother's milk is equally thin, yet sufficiently nourishing for the child one week old or less. Forty-eight hours later the dilution may be strengthened to one spoonful of milk to fifteen of water; then gradually to fourteen, etc. At three months the baby may be taking a solution of one part condensed milk to eight parts of barley water.

Babies raised on condensed milk gain rapidly in weight because the condensed milk, being low in fats and proteids, and high in sugar, is easily digested. However, the same children show little resistance when attacked by acute disease, and, if fed on condensed milk exclusively, they may develop rickets or scurvy. It is therefore desirable to secure a good quality of fresh milk to alternate with the condensed milk and, eventually, to serve it for all the feedings.

Medical authorities differ on the question of patent foods. Men who have specialized on the feeding of infants agree that the safest substitute for mother's milk is modified cow's milk, and claim that whatever nourishment is drawn from patent foods is due to the sugar or carbohydrates in the patented article and to the cow's milk with which

it is prepared. These foods have no medical or life-giving properties; and most of them, in analysis, show a combination of starches, various kinds of sugar, dried milk, and even eggs. They should be given to the child only under the direction of the family physician.

The same is true of buttermilk, casein milk, and peptonized milk. The use of these foods is necessary only under certain conditions, when the child's digestion is seriously disturbed. They should not be fed to a baby on the advice of a neighbor or a druggist. I have known many mothers who, at the first sign of indigestion, dosed the baby's milk with quantities of lime water and peptonizing powder. This should not be done without consulting a physician.

Above all things, the mother of the baby artificially fed should keep calm and cool-headed. Even breast-fed babies have occasional attacks of indigestion, vomiting, colic, and diarrhea, which yield quickly to treatment. The same trouble in bottle-fed babies will yield to treatment.

# CHAPTER VI

## GUARDING THE BABY'S DIGESTION

SOUND DIGESTION MEANS A STRONG BABY—BOWEL CONDITIONS TELL THE STORY—THE UNDERFED AND THE OVERFED BABY—SYMPTOMS OF DISORDER IN THE DIGESTIVE SYSTEM—VOMITING—COLIC AND CONSTIPATION—DIARRHEA AND ITS TREATMENT

SOUND digestion in the family baby stands for many good things. It spells peace and comfort for the entire household; for good digestion means good health and good humor, therefore a baby whose presence does not disturb the family. It spells small doctor's bills, because a sound digestion gives the baby power of resistance to throw off germs of disease and even to pass safely through exposure to contagion. It spells efficiency and intelligent care on the part of the mother, for, common belief to the contrary notwithstanding, the healthy baby is not a matter of accident but of care. The knowledge of how to give that care may be innate, inherited from a line of sensible, motherly women, or it may be acquired by education in the feeding and care of infants; but it is there.

That fact is proved by experiment among untrained mothers. A Philadelphia branch of the Congress of Mothers started an infant-saving campaign in a certain ward of that city. For a given time, they had meetings of mothers, with talks on the care and feeding of babies, week in and week out. Babies were weighed and measured, and, as they gained, the mothers were praised for the improvement in their children. In this one ward, where education for motherhood was taught persistently and intelligently, the death rate was reduced 44 per cent. on the year. No record was kept of the improved condition in mothers and homes. These are blessings which cannot be reduced to figures.

When the American woman knows as much about feeding babies and children under three years of age as she knows about mixing bread, polishing furniture, and embroidering doilies, our home economics and domestic relations will undergo a change for the better. Thousands of marriages have been wrecked by the ignorance of the mother in rearing her children, and the subsequent confusion and quarreling. A sickly baby loads the husband and father with harassing expenses. It brings the family bread-winner home to a disordered house and a tired, fretful wife. It keeps both husband and wife awake when they should be securing a good night's rest to meet the next day's duties. Result: in poor circles, the husband

turns coward and deserts wife and child; higher up in the economic scale, the husband secures work in a distant city and the wife goes home to "her people." In either case, the man often seeks, in more pleasant companionship, relief from the unsatisfactory conditions existing in his own home.

The wife considers the husband unreasonable and dishonorable. She declares that she has the heavier burden to bear, a sickly baby to tend day and night. What she does not realize is that the baby would not be sickly if the mother knew her job of motherhood as well as the father knows his trade of bread-winning. The law does not recognize indigestion in the family baby as a divorce cause, but any judge who has ever presided over what is known as a court of domestic relations will tell you that desertion, non-support, cruelty, and infidelity on the part of the husband can often be traced directly to the wailing of a baby or several babies, who would not wail if their mothers knew how to guard their digestion.

Mothers are not altogether to blame for their inability to prevent digestive ailments in their babies. Generally, their own mothers did not understand this wonderful science of infant feeding, nor warn them of the pitfalls which yawn before the young mother who has not studied it.

Even general practitioners have not placed

great importance on the study of babies. They have had their hands full by doctoring grown-ups, who might have been healthy adults if properly started in life.

After ushering the child into the world and pronouncing it sound, the average family physician has turned the baby over to the parents; and under their care it has remained until it developed some acute malady, when the doctor has reappeared on the scene. The cure of the malady, not its prevention, has long been the office of the family physician. They do it better in China, where physicians are paid only so long as the health of the family is good.

The world has long proceeded on the theory that with the birth of the baby was born in the mother some heaven-sent knowledge of how to raise the baby. To be sure, she was taught to read and write and cook and sew, but there was no need to teach her how to feed her baby. By some mysterious process, God supplied that knowledge. That He did not is shown by the fact that twenty-five per cent. of the deaths in our country are of children under one year of age.

Another mistaken belief about babies has been that they are born "delicate" or "strong"; and, as they are born, so must they live—that is, if they live at all! The delicate baby has been regarded as a cross, to be carried with patience and resig-

nation. Mother trotted and dosed it by day; Father walked the floor with it by night; and the neighbors pitied them both. The idea that the poor little tot was born with the right to acquire strength and health was not preached: the thought of calling in science to transform the delicate baby into a strong one is comparatively new.

Fortunately for the race, a few brave spirits in the medical profession decided to defy tradition and study babies as controllable human machines rather than as dispensations of a more or less kindly Providence. They found that babies born healthy and normal could be kept that way; that babies born puny and delicate could be made sturdy and strong; that even babies born with inherited defects, physical and mental, could be so treated that they would develop into useful, self-supporting citizens, where once they were consigned to that hideous human scrap-heap, the institutions for defective and feeble-minded children.

Only those of us who have followed the work of specialists in children's diseases—pediatrists, as they are known in the medical profession—can appreciate what marvels have been worked in children born without the birthright of good health. Now these men are going farther. They stand behind the twentieth-century campaign for public education among women in the care and

feeding of children. They have rent the veil of mystery which so long has surrounded medical learning; they have written books for mothers, couched not in dictionary-defying terms, but in simple English which the average mother can understand; they have given public talks to mothers on infant feeding; and now they are leading the movement for health conferences between parents, physicians, and health officers—city, county, and state—and for what are known as Better Babies Contests, where babies are brought by their parents for examination in physical and mental development.

All these signs indicate a new and popular appreciation of what is known as preventive medicine. The broad-minded physician practises preventive medicine. The progressive mother works with the progressive physician, and the baby profits by the combination. To-day there is little excuse for a colicky, crying, sickly baby in the family circle. Except in rare cases, when the baby's poor condition does not improve under intelligent mother-care, modern medical science can effect a cure. What generally stands between the sick baby and its cure to-day is ignorance or tradition on the part of the parent, who clings to the belief that strong babies are born to live, that weak babies are born to die, and that the Creator has decreed it!

In reality the Creator should not be held re-

sponsible for the physical future of the child. Its normal development is practically in the hands of the mother. In the midst of this magnificent campaign for the intelligent care and feeding of infants, she has no right to remain ignorant. Lectures, conferences, and books are at her command; and what this simple preventive medicine teaches her to do for her child she is morally bound to perform.

And this brings us back to the original statement at the head of this chapter: Sound digestion in the family baby stands for many good things—more especially for the safety and comfort of the baby. So it is most important that the mother ask herself:

"What is the condition of my baby's digestion?"

The baby whose digestion is in good order gains steadily in weight, has firm flesh, a clear skin, and good color. During the first few months of its life it sleeps two or three hours after nursing; and during the brief periods of wakefulness it is quiet, good-natured, and quite content to lie staring at nothing. It does not demand attention, rocking or walking. It has an excellent appetite, nursing with relish, often greedily. This does not mean whimpering or fretting for food. The baby that tugs nervously at the breast is not properly nourished.

The healthy baby may have what is known as

regurgitation, which is best described as the overflow when the baby has taken more milk than its little stomach will hold. The milk, uncurdled, practically exactly as it was swallowed, rolls out of the baby's mouth without any gagging or muscular contraction. This is especially apt to happen when there is an unusually strong flow of mother's milk; or when the nipple hole is too large for the bottle-fed baby.

The healthy baby does not have colic or gas on the stomach.

A healthy baby may cry, especially just before it is fed, because crying is its only method of announcing that it is hungry. It may also cry while being bathed or dressed, because it resents being disturbed. Such crying in moderation is healthful, for it is about the only exercise the baby gets.

Perhaps the best indication that a baby's digestion is in good condition is the state of the bowels. The mother should watch this closely. For the first three or four days the movements are black and sticky. There should be not less than two and not more than four in number. From black they are very apt to turn green, and remain so for a week or more, because the flow of mother's milk is not yet established. As a rule, however, during the second week, the breast milk gains in quality, and the stools turn a light yellow and become more solid, about the consistency

of mush. If the mother's digestion and general health are good, the child will have from two to four movements a day.

Neglect to regulate the bowels is one of the most common causes of death among bottle-fed babies. The entire system is poisoned, for the waste matter is not carried off through the bowels. The inexperienced mother will be wise to have her physician watch the stools until the child's health seems fairly well established. Hundreds of bottle-fed babies, who do not outlive the first month, might be saved if this rule were observed. When a physician is not at hand, the mother must watch the stools with a critical eye.

The bowels of the bottle-fed baby rarely move as often as those of the breast-fed infant; but the stool is larger, and of a lighter yellow, smooth, and of the consistency of a firm ointment or cold cream. If the child does not have at least one movement a day, the proportions used in the modified milk must be changed.

The digestion of the nursing baby may be disturbed by milk that is scanty and poor in quality, or by milk that is too rich and flows too fast. When the former condition exists the child does not gain, and it may even lose in weight; the flesh is soft and flabby, the skin pale; the child sleeps poorly and often brokenly or with sobs. When awake the baby looks dull and listless, or is fretful or irritable. It may also belch gas or, if

the gas is retained, there will be colic and a distended abdomen. Sometimes the bowels are constipated, but more generally the movements are loose and the stools green in color and streaked with mucus. Also the movement is accompanied by pain sufficient to make the child cry.

When the supply of milk is scant, the baby will seem hungry and restless; again, three-quarters of an hour after nursing, the baby will seize the nipple greedily but, after a moment, drop it in apparent disgust and begin to cry.

Sometimes both the quality and the quantity of the milk can be built up by attention to the health and diet of the mother; but, as this process is necessarily slow, the baby in the meantime must be given occasional feedings of modified milk, as described in Chapter V. Then, if the flow of milk is not established or the child still turns from the breast, a complete weaning must follow.

If the indigestion is due to overfeeding, the child shows an abnormal gain in weight, is restless after nursing, vomits, suffers from wind and colic, is dull and sleeps a great deal but restlessly, not quietly, perspires heavily on head and neck, and passes so much urine that, despite frequent changing, the diapers are always wet.

For these conditions there may be either or both of two causes: milk that flows too quickly, and milk that is too rich. The first trouble is

easily corrected by the mother compressing the base of the nipple between her first and second fingers while the child is nursing, thus checking the rapid flow of the milk. The second trouble is not so easily corrected, for it is caused by one of three things: (1) the mother is eating food that is too rich; (2) she is taking too little exercise; (3) she is giving way to mental excitement, hysterics, grief, or temper. If the condition is not mental, and the mother is taking sufficient exercise, then it is a question of modifying the mother's milk.

This can be done, first, through the mother's diet—simpler food, less meat, no alcohol; second, just before nursing, the baby may be given an ounce of boiled water in which one-fourth teaspoonful of malt sugar has been dissolved, using an ordinary nursing bottle with a plain nipple. The child will then nurse a shorter time and the water taken from the bottle will dilute the milk drawn from the breast. The first few ounces drawn from the breast are less rich than the last ones; so if the child does not drain the breast, he does not get the richest part of the milk. This experiment should not be tried, however, without consulting the family physician, who will have a sample of the mother's milk drawn with a breast-pump and analyzed before prescribing the sweetened water.

The mother must bear in mind, however, that

there is a distinct difference between chronic and acute illness from indigestion. When a baby, that has nursed contentedly and gained regularly in weight, suddenly refuses the breast, this is generally a sign of acute illness, requiring the immediate attention of a physician and prompt treatment. When the symptoms of indigestion are slight, but persistent and regular, and the baby shows general distaste for either breast or bottle, then it is merely some disturbance of digestion, malnutrition or mal-assimilation of food, which can be corrected by modifying the diet.

Neglect of acute indigestion may mean convulsions, intestinal inflammation or other ailment which will quickly prove fatal. Slight but chronic indigestion should be corrected because it disturbs and weakens the entire system, fills it with poison and makes the child liable to disease. The child who "takes cold easily" or "teethes hard" is generally the child whose digestion is out of order.

General disorder of the digestive system is indicated by one or more of these symptoms: Constipation, diarrhea, colic, and vomiting. Gastric or stomach trouble is indicated by vomiting or the belching of gas; intestinal trouble by colic, flatulence, diarrhea, and constipation.

The wise mother will learn to distinguish between the various forms of vomiting. Regurgitation, already described, is not a danger signal;

if the milk, unchanged in consistency and color, runs easily from the baby's mouth almost immediately after the child is taken from the breast or bottle, and then, as if relieved, the infant rolls over in comfortable slumber, there is no cause for anxiety. If, however, the vomiting happens just before the next nursing period, or even an hour after nursing, the diet should receive attention; especially if the milk is curdled or colored with bile.

Before changing the diet, however, other factors in the care of the baby should be considered:

Is it fed at regular intervals, as outlined in Chapter IV?

At the Better Babies Contests I have often been shocked at the replies given by mothers when the doctors inquired, "How often is your child fed?"

Here are some of the answers: "I don't know." "When he wakes up." "Whenever he cries." "When I have time to sit down."

The child that is fed irregularly is very apt to vomit.

So is the child that is jostled, jogged, or rocked after nursing. Directly a baby is fed it should be laid down in its crib and the food given a chance to digest.

Tight clothing over the stomach and abdomen will cause vomiting; and, for that reason, bellybands must not be pinned tightly.

If none of the above reasons is present, and

the baby vomits habitually, the diet must be changed.

The third form of vomiting is acute and sudden. It may generally be regarded as a symptom of an acute illness, such as measles, pneumonia, scarlet fever. It is safest to send for a physician under such circumstances. He can decide whether the acute vomiting is due to something the mother or child has eaten, or whether other symptoms of a serious ailment are present. Under ordinary circumstances the mother should merely withhold food until the arrival of the doctor. If the doctor cannot be secured for some time, she may safely give the child calomel, one-tenth of one grain every half-hour until one-half of a grain has been taken. The calomel should be carried off by an enema of warm water and sweet-oil. This may prevent serious consequences until the doctor arrives.

Gas on the stomach, with distention and pain, is indicated by belching, sometimes accompanied by a sour, watery fluid. Relief can be given by adding half a grain of benzoate of soda to each ounce of food for the bottle baby; but it is far better for both nursing and bottle baby if the mother will either change her own diet or reduce the quality of the bottle milk. Dr. Holt recommends, for gastric indigestion, two ounces of lime water to each twenty ounces of food.

Colic and flatulence come from the distention

of the bowel by gas, and are generally accompanied by constipation. As a rule, if the constipation is relieved, the colic will disappear.

The presence of gas in the intestines generally indicates that either the sugar or the starch in the food is not being properly digested. The mother must reduce the quantity of starch and sweets which she is eating, in order to modify the breast milk. For the bottle-fed baby starch may be omitted from the food, and malto should be used instead of cane sugar.

For constipation in bottle-fed babies, milk of magnesia, which can be purchased at any first-class drugstore, may be added to the modified milk, in the proportion of one-half to one teaspoonful to each twenty ounces of food. The proportion must be according to the age of the child and the stubbornness of the constipation.

Constipation may also come from weak milk; in this case top milk instead of plain milk should be used in preparing the food for the bottle-fed baby.

No baby should be given cathartics nor enemas, except in emergencies. Even castor-oil is not safe, because if constipation springs from the fact that the milk is already too rich in fat, the oil increases the trouble. Enemas given every day weaken the muscles of the lower bowel. Up to the time the baby is six months old the mother should give no cathartic except milk of magnesia. The bottle-fed

baby is given some of this at each feeding. It may be given to the breast-fed baby in a little boiled and warmed water, just before nursing. If milk of magnesia and attention to the diet do not correct the trouble, then a physician should be called in.

After six months a child may have orange juice, or orange and pineapple juice, strained; also apples scraped very fine.

Massage or kneading the abdomen lightly sometimes brings relief; but this should never be done immediately after the baby is fed. An hour should be permitted to elapse; and it is still better to massage the abdomen just before feeding. However, massage without correcting the diet is not sufficient.

Constipation must be corrected during infancy, for there is no other evil of the human system that can bring upon men and women a greater number of ailments which make life one long story of aches and pains.

Diarrhea is a symptom of acute illness, and frequently ends in death. It is the most dangerous of all symptoms that babies develop. With all the agencies at work for infant welfare in large cities, during hot weather, more babies die of diarrhea than of all the contagious diseases, like measles, whooping-cough, diphtheria, scarlet and typhoid fever, put together. Even in the country, with its pure air and its better facilities for

securing clean milk, babies die of diarrhea in shocking numbers.

This dreaded disease of infancy can generally be traced to two causes: improper food, and unclean milk.

One reason why it is more prevalent in summer than in winter is the fact that heat affects milk quickly and unfits it for the baby's digestion. When the breast-fed baby has diarrhea, the mother must immediately look to her own diet. The mother of the bottle-fed baby must look to the source and care given to the cow's milk fed to the baby.

In this respect the small-town mother and the farmer's wife have the advantage over the city mother. They can secure milk from healthy cows, directly the milking is over, twice a day. They can strain it through cheese-cloth, cool it rapidly on ice, and allow no contaminating hand or utensil to touch it. The city mother must pin her faith to certified milk.

So much for the prevention of diarrhea. If, in spite of every precaution, it appears, food of any kind must be withdrawn. Even the breast-fed baby should fast for twelve hours. Cleanse the bowels with either castor-oil or calomel. Try castor-oil first: one teaspoonful for the baby three months old or less. From three months to a year old, the dose may be graduated from a teaspoonful to a tablespoonful. If the baby can-

not retain the castor-oil, try calomel as prescribed for vomiting—one-tenth of one grain every half-hour until one-half grain has been taken—for the baby up to four months. After that, and up to one year, the quantity may be increased, one-tenth of one grain every half-hour until two grains have been taken. Boiled water may be given at intervals, but not in any quantity, especially if the diarrhea is accompanied by vomiting. If the diarrhea does not yield to this treatment within twenty-four hours, a physician should be called in.

# CHAPTER VII

## TEETHING AND WEANING

TEETHING A NATURAL PROCESS—PUTTING THE BABY IN SHAPE TO TEETHE EASILY—DENTITION TABLE—CARE OF THE FIRST TEETH—GRADUAL WEANING IS SIMPLE PROCESS—ALTERNATE BREAST AND BOTTLE FEEDING — EVILS OF DELAYED WEANING — DIET TABLES FOR CHILDREN FROM NINE MONTHS TO THIRTY-SIX MONTHS

ONE of those dear women who never master the art of taking comfort out of life as they go along remarked to me recently:

"Well, I suppose there are some mothers who find pleasure in raising children, but I've never had a care-free moment with mine. Just as soon as I could draw a long breath because they had survived the first month or so, I began to think about teething. When a couple of teeth were safely through, along came weaning. And then measles——"

Yet this mother has raised four splendidly strong boys and girls, and has never lost a child. Her husband would tell you that the family doc-

tor's bills have been extremely small. Perhaps you think the babies escaped illness because she worried over them and guarded their health. Not at all! They were healthy, normal babies. If they had been otherwise, the family doctor would literally have camped in her nursery.

The real trouble with their mother was that she did not recognize a normal baby when she had one, and she did not consider teething and weaning natural events or processes in a baby's life. She could not believe that it was possible to raise babies without fighting illness in some form or another. She did not understand that her simple methods of preventive medicine, the intelligent care of her children from the day of their birth, insured normal digestion. With this health insurance she had no need to fear "symptoms" or bad results from teething and weaning.

The testimony of physicians who have specialized in the care and feeding of children, and of mothers who have raised normal babies, proves that both teething and weaning are normal and gradual operations which do not seriously disturb the child's health, if the digestion is in good condition.

Teething in particular is often made the excuse or the cloak for chronic disturbances of the digestion, which should have been corrected long before the time for dentition arrived. The average child does not cut its first teeth until the

sixth month, yet it is not unusual to hear a mother claim that an attack of indigestion, vomiting, or diarrhea in a three months' old child is due to the fact that teeth are beginning to make trouble.

If the child is kept in all-round good condition, teething is merely a part of its all-round development, no more troublesome than the growth of the hair on the head, or the nails on the fingers. To the healthy child, the cutting of each successive tooth may bring a trifling irritability, restlessness or wakefulness for a few nights, and drooling. The baby may even suffer from loss of appetite, a very slight fever, light vomiting, or streaks of undigested food in the stools; but these symptoms will last only a few days and the baby will recuperate rapidly.

When the child is not in a healthy condition, and especially if it is fed irregularly and improperly, these slight disturbances take on a more serious form. The fever will run up to 101° or 102° F. The child will be unable to retain food, and the vomiting will be severe. Diarrhea next sets in, and the child is in a fair way to develop a case of cholera infantum, the dread disease responsible for the high death rate among children under one year of age. Summer complaint, as it is commonly called, is not due to teething, however, but to the bad condition of the digestive organs, which teething aggravates.

While it is important to guard the baby's diges-

tion always, it is even more important to prepare his entire system for the process of teething by setting the digestive organs in good order before —not after—the process starts. Here, indeed, the proverbial ounce of prevention is worth many pounds of cure. It is far easier to put stomach and bowels into good shape before the first tooth appears than it is to check the diarrhea which comes when the child's digestion is too weak to meet the slight added strain of dentition.

The first teeth appear some time between the fifth and ninth months. These are the two central lower teeth. The average time of dentition in a healthy child is six months. Generally these two teeth appear very close together. Next, between the eighth and twelfth month come the four upper central teeth. Between the twelfth and eighteenth month the baby cuts two more lower central teeth, and four double teeth. Next in order are the four canine teeth, the upper teeth in this set are known as "eye teeth" and the two lower as "stomach teeth." These should make their appearance by the twenty-fourth month. Between this date and the thirtieth month come the four back double teeth, which, according to tradition, are the most difficult to cut. In reality, they give little more trouble than any others, provided, of course, that the child is in good condition.

The following is an average table of dentition:

At 12 months, six teeth.
At 18 months, twelve teeth.
At 24 months, sixteen teeth.
At 30 months, twenty teeth, or the complete set of first, or milk, teeth, as they are sometimes called.

Various causes are assigned to delayed dentition or slowness in teething. A prolonged and serious illness, or a case of rickets, will delay the teething; and it is also said to be a matter of family traits. In some families the children, whether bottle-fed or breast-fed, teethe later than in others. As a rule, too, the breast-fed baby teethes earlier and more easily than the bottle-fed baby, because the breast milk keeps the digestion in a uniformly normal condition.

The mother who studies this table of dentition and the diet tables on pages 109-111 will see that the cutting of the larger teeth, and the change in diet from milk to foods that require chewing, come at the same time, at eighteen months. If she will follow the directions of the diet table, the baby will not suffer from the consequences of overfeeding or of food that is too rich.

There is no way of hastening the process of dentition until the gums become swollen and the child is irritated by the discomfort entailed. Then the gums may be rubbed very gently several times daily with a *clean* piece of Turkish toweling twisted around the index finger. The old habit of

rubbing the baby's gums with the bare finger, which may or may not have been washed, is not sanitary, nor for that matter does it assist the cutting of the tooth. But the moderate roughness of Turkish toweling is helpful. Small squares of the toweling may be kept in the baby's basket for ready use. If the baby is feverish and the gums are hot as well as swollen, they can be washed gently several times daily with a soft bit of gauze dipped in water that has been first boiled, then cooled in a sanitary vessel.

If the baby seems to find relief in biting on something hard, provide an ivory ring or toy that can be washed. Never allow the child to put the ring in his mouth after it has been dropped on the floor, or in dust of any sort, until you have cleansed it again.

If the gums remain swollen and hard, and if such symptoms as fever, vomiting, and diarrhea persist, have your physician examine the baby's mouth. If the gums need lancing, this may be done; but do not urge it against the doctor's better judgment. If the tooth is not close to the surface, the gum will heal over after lancing and form a tough scar more difficult to penetrate than the uncut flesh.

If your baby has a convulsion while teething, do not lay this acute attack to the teeth. It probably springs from other causes and should have the attention of the family doctor. Convulsions

are not symptoms of teething and they are serious enough to require immediate treatment.

As the health of the teeth is dependent upon cleanliness, they should be kept clean from the day the first pearly point forces itself through the gums. Up to this time the gums have been washed daily. Now a small, very soft toothbrush, "baby size," should be bought, and the teeth and gums should be rubbed gently twice a day. By the time the child is able to seize and guide the brush, he will find both satisfaction and diversion in brushing his own teeth. The average child seems to be born with a desire for self-expression, and the sooner he can be entrusted with the proper care of his own body the better. The child who is washed and has his teeth cleaned by another person, often against his will, is seldom as clean a child as the one who is given to understand that keeping himself clean is a privilege.

In brushing these first teeth, it is not necessary to use any powder or paste on the brush; but a mild antiseptic solution, like listerine or glycothymoline, may be added to the water. As the little jaws fill up with teeth, their general condition must be watched closely for two reasons: first, because the condition of the teeth may be a symptom of constitutional disorder; second, because the health of the second or permanent teeth is largely dependent upon the condition and care of the first teeth.

The teeth should be brushed up and down as well as from side to side. The gums should be thoroughly cleaned, and the child should be taught to rinse the mouth well.

Watch for signs of decay. It is astonishing how soon these appear, especially if the diet is not what the child needs. Decay springs from three causes: uncleanliness, a diet which lacks bone-making properties, and disuse. The tiny brush will keep the teeth clean. If the diet tables given in this book are followed, the bones and the teeth will be properly nourished. The average mother makes the mistake of not giving the teeth enough work to do.

Dogs and all animals which chew on bones have hard, strong teeth. Human beings who eat food that requires slow, persistent mastication, such as hard tack, tough meats, etc., develop strong and generally sound teeth; while the more civilized races and the privileged few who eat prepared foods or the most delicate and tender of meats, sauces, etc., are the dentist's best-paying patients. If the mother puts this theory into practice and gives her child's teeth work to do, she will help harden the teeth and prevent their decay.

Especially after the fourteenth month, the diet must include broths made from meat, eggs, vegetables and fruits, plenty of starch and fats, with little sweets. Candy is especially bad for the teeth. Bread toasted in the oven, zwieback, and

hard crackers should partially supplant cereals and mush. When the child is old enough to be fed meat, either chicken, lamb chop, or beefsteak broiled, may be scraped or minced away from the bone, and then the bone itself be given to the child to "pick." The little teeth will thus have fine exercise.

The habit of swallowing solid food whole, gulping it down with water or milk, is dangerous to the teeth as well as to the stomach. If the child shows a tendency to do this, do not serve liquid food and solid food at the same time. Teach the baby by example to eat slowly and masticate each bite thoroughly.

If the first teeth are discolored and irregular, or if they decay early, have a dentist look them over. It may be necessary to treat them and have them filled long before time for the second set to appear. If decayed first teeth are permitted to remain in the jaw, or if they are drawn too soon, the second teeth will be unhealthy or irregular in shape and position.

Weaning is a process which frequently accompanies the first period of dentition—by which I mean the last three months of baby's first year, during which time he will probably cut six teeth. The combination of teething and weaning, however, is not so fearsome as it sounds—provided, of course, that the baby has been properly nourished and is developing along normal lines.

Most of us can look back to the day when weaning the family baby was almost a domestic tragedy. The mother, more through fear than sentiment, wept and declared that, once her child did not nurse from the breast, life would never be quite the same! The baby would grow away from her! The entire family watched the process in awe, wondering whether baby would survive the sudden change of diet.

And in that word "sudden" lay all the dread possibilities for both mother and child. Fortunately, we have outgrown sudden weaning, along with many other dangerous superstitions and traditions of motherhood. In those days, when grandmothers and aunts came flocking round to assist in weaning the family treasure, babies were fed on breast milk from birth to practically the day when weaning became a stern necessity. Consequently, the enforced weaning represented for the baby an abrupt change in diet, which was most disturbing to his stomach; and for the mother all the horrors of breast-trouble when the baby no longer nursed. Artificial pumping, caked breasts, abscesses, were common features of the old-fashioned system of weaning, which the modern mother does not undergo.

To-day the wise physician and mother agree that, from the third month on, the baby shall vary breast feedings with properly modified cow's milk from the bottle. As the months pass, the bottle

feedings are increased. Then, no matter what emergency may arise—illness or pregnancy in the mother, the necessity for a prolonged separation between mother and child—the baby is so accustomed to the bottle that, deprived of natural nourishment, he will not resent bottle food exclusively, and his entire digestive system is at least partially prepared for the change.

When weaning is not due to emergency, but is gradual and part of the natural development of the child, it is a very simple process. From the third to the tenth month, we will say that the child has had both breast milk and the occasional bottle feeding. Gradually, from the sixth month on, the bottle feedings have been increased in both number and strength. Now, at the tenth month, he may drink milk, orange juice, and clear broth out of a cup. His cereal and thick broth may be fed to him with a spoon. All this time he draws less and less on the mother for nourishment. By the twelfth month, or the end of his first year, if his health is good, the baby is weaned automatically without any abrupt and dangerous change in diet.

During the latter part of this gradual weaning process, as he has drawn less on the breast, the amount of milk has decreased with the lack of demand, and so the weaning involves less danger and pain for the mother.

Very few mothers have the strength to nourish

their babies after the twelfth month. In fact, pediatrists and nurses who have done dispensary work among children state that many cases of anemia and rickets can be traced to poor nourishment, due to the overworked mother's well-meaning but mistaken effort to nurse the baby, without any bottle feedings, through teething, and beyond the first year.

The bottle-fed baby must be weaned from the bottle in the same gradual way. At nine months, if he is in good condition, and the artificial food is properly digested, he may be fed partly from cup or spoon at each feeding. The modified milk fed in the bottle should be divided—half should be served first from the spoon or cup, while the baby is hungry enough to accept food in any form, by any means. Then the second half of his feeding may be given from the bottle. If he is given the bottle first and his hunger is partly satisfied, he will resent the new form of feeding, which is slower and therefore less pleasing to his small majesty. At a year, he is given one entire feeding with cup or spoon, preferably the midday meal. This replaces one bottle feeding. The spoon and cup feedings are then increased gradually and the bottle feedings are decreased. At fourteen months, he gets two meals of spoon food and three bottle feedings; at sixteen months, three spoon and cup meals a day, and a bottle at 9 or 10 at

night; at eighteen or twenty months, the night bottle is stopped. The baby is safely weaned.

The triumph of modern weaning is due entirely to the fact that it is a natural, gradual process, in contrast to the more abrupt and drastic changes under the old-fashioned methods.

The following diet list, which will serve to guide the mother in carrying her child safely through the joint process of teething and weaning, is used in private practice by Roger H. Dennett, M.D., Professor of Pediatrics in the Post Graduate Hospital of New York:

### DIET FOR CHILD

FROM NINE OR TEN MONTHS TO THIRTEEN OR FOURTEEN MONTHS:

| | |
|---|---|
| 6 A.M. | Bottle feeding of undiluted, unsweetened cow's milk, or<br>Breast feeding when there is an ample supply of milk, or<br>Drink of milk from the cup. |
| 9 A.M. | Cereal and drink of milk from the cup; varying the cereals with Farina, Cream of Wheat, Wheatina, Oatmeal, Ralston's Food, Hominy, Rice, Cornmeal-mush, and Cornstarch. |
| 12 Noon. | Same as 6 A.M. |
| 3 P.M. | Toast, stale bread, or zwieback, and drink of milk from cup. |
| 6 P.M. | Same as 6 A.M. |
| 9 or 10 P.M. | Same as 6 A.M. |

Orange juice or scraped raw apple may be given between the feedings.

FOURTEEN MONTHS TO EIGHTEEN MONTHS

**7 or 8 A.M.** BREAKFAST: Cereal, bread or toast; cup of milk. The cereal may be varied as above.

**10 A.M.** Scraped raw apple, pear or peach, or orange juice. Avoid skins and seeds.

**12 or 1 P.M.** DINNER: An egg; potato; one other vegetable; bread; fruit juices or scraped fruit. The egg may be coddled, boiled, shirred, or poached. Potatoes may be baked, boiled, or mashed; preferably baked. Spinach, carrots, peas, string beans, asparagus tips, all cooked soft and mashed fine, may be used. Once or twice a week soups may be substituted for the egg, thickened with peas, beans, farina, sago, rice, or vegetables.

For dessert, apple sauce, baked apple, prune pulp, or cooked fruit.

**5 or 6 P.M.** SUPPER: Eight ounces of undiluted milk from the cup, bread, toast or zwieback, Graham or arrowroot crackers.

**10 P.M.** (If desired) Eight ounces of undiluted milk.

EIGHTEEN MONTHS TO THREE YEARS

**7 or 8 A.M.** BREAKFAST: Cereal; egg; stale bread or toast; dry bacon.

**12 to 1 P.M.** DINNER: Meat; potatoes; one vegetable; dessert. A small quantity of meat, such as scraped beef, lamb chop, roast beef, roast lamb, Hamburger steak, all cooked rare and cut fine. The roast may be hot or cold. Chicken, boiled, fricasseed, or roasted, may be given. Occasionally soups as described above may be given instead of meat, but they do not take the place of meat. Vegetables, such as carrots, spinach, green peas, string beans, squash, and macaroni. The dessert may be of apple sauce, baked apple,

prune pulp, stale lady fingers, Graham or arrowroot crackers, rice, bread, tapioca or blanc-mange pudding, baked custard, junket, or rice with hot milk.

5 to 6 P.M. SUPPER: Stale bread or toast, unsweetened crackers; milk; fruit, raw or cooked. Clear broth or cereal may be given occasionally instead of the milk.

This diet list will meet the needs of normal, healthy babies only. It is not intended as a guide to the mother of the extremely delicate baby, nor will it serve when the child has shown from birth a tendency to anemia, malnutrition, or chronic digestive disturbances, like constipation or diarrhea. Such cases are individual or abnormal, and require medical attention. No general diet will serve for such babies, who should be under the care of a child-specialist.

# CHAPTER VIII

## CLEANLINESS AND HEALTH

HOW TO GIVE THE BABY'S BATH—CARE OF THE VARIOUS ORGANS—THRUSH AND ITS TREATMENT—SPECIAL BATHS FOR DELICATE CHILDREN—HABITS OF CLEANLINESS

CLEANLINESS is one of the foundation-stones on which is reared the beautiful structure of baby's good health and good temper. When it is neglected, all sorts of weaknesses, discomforts and irritations creep in.

Uncleanliness invites disease and furnishes a lodging-place for germs. Moreover, the baby that starts off life by being comfortable through cleanliness forms habits of neatness which it never loses. Whenever a mother tells me that she cannot keep her three- or four-year-old baby clean, that it simply "attracts" dirt wherever it goes, whatever it does, I wonder how she started it off at birth. Moreover, I have noticed at Better Babies Contests that many minor defects and small ailments can be traced by the examining physicians directly to untidiness on the part of the mother.

Looking back on the babyhood of my own children I can recall no happier hours than those spent before the open fireplace in the adobe cabin of a Western ranch, where the babies were sponged and patted dry and cuddled off to sleep by the light of the dancing flames.

The mother who allows plenty of time for the morning bath is sowing seeds which are bound to blossom in habits of cleanliness in the child. So, in planning for the coming of a new baby, she should spend more on the equipment for the bath than on embroidery for the layette.

The little baby should not be bathed in the family tub. It should have a small metal or enameled tub of its own. This tub should be used for no other purpose. The skin of the new-born baby is very tender, and infection is always at hand. At the Better Babies Contests I have heard more than one physician trace an eruption on the baby's skin to careless bathing or care of the tub. Doctors say that bad cases of boils can be traced to an infected tub. In fact, there are women who love their babies, yet who are so thoughtless as to leave diapers soaking in the bathtub, where, after a superficial rinsing off with warm water, baby is bathed. Diapers, all of baby's clothing, in fact, should be soaked and washed in separate utensils, never in the bathtub.

The task of bathing the baby will be lightened if the tub is placed on a low table and the mother

stands before it. When the tub is on the floor and the mother has to kneel or bend, it is not so easy to handle the baby. The top of the table may be protected with a pad, which can be dried after the bath, or with a piece of oilcloth and a square of muslin.

In addition to the tub there should be provided a large, but light, pitcher, preferably of enameled ware, for carrying the water from the bathroom or the kitchen to the nursery; a china or enameled bowl for the boracic acid solution; castile soap; squares cut from old, clean handkerchiefs, or old linen, for wash-cloths; a number of well-worn soft towels; a bath thermometer for testing the temperature of the water; medicine dropper for washing out baby's eyes; shaker of talcum powder; absorbent cotton and aseptic gauze for cleansing the nose, ears, and mouth; soft hair-brush; and a needle and thread for sewing on the bands.

The bath equipment should not be allowed to stand on the table between baths. It should be kept, away from dust, in a closet or chest.

A word of caution about the bathtub which has been used for other babies. When it is handed down from one baby to another, or perhaps has been rescued from attic or cellar, the tub may be a bit battered or rusty. If the paint is worn off, the rough spaces may offer a lodging-place for germs. It is a very simple matter for some mem-

ber of the family to give the tub a fresh coat of enamel paint, which comes for the purpose. This precaution may save the baby from irritations of the skin, and the mother from wakeful hours.

Never use strong washing-powders to cleanse the tub, as they irritate the skin.

Always throw away the cotton and aseptic gauze or old pieces of linen used for washing the baby.

Never use new towels or new, rough wash-rags for bathing the tender skin of the baby. Old fabrics, well washed, and dried either in the sun or before the nursery fire, are much better.

Never use a sponge for the baby; it cannot be kept clean. A germ-laden sponge may cause many forms of skin diseases, chafing and general irritation.

Do not start the task of bathing until you have everything at hand. The aprons, rubber and flannel, for the mother should be hanging over the back of the chair; the equipment for the bath arranged on the table; and the baby's clean clothing hung to air and warm on the rack near the fire.

The temperature of the room in which the bath is given should be at least 70° F. The temperature of the water should be tested by the bath thermometer. For the first eight weeks of the baby's life the bath thermometer should show that the water is 100° F. From two months to six the temperature should be 98° F. From six

to twenty-four it should register from 85° to 90° F. The baby under two years old should never be given what is known as a cold bath, even when it is suffering from the effects of heat in the summer. A bath thermometer is a splendid investment for any mother; but if it is not within the financial possibilities, then the mother must test the bath very carefully by thrusting her bare elbow into the water.

During the first week or ten days of the baby's life it is sponged off without laying it in the tub. After the navel cord has come off the baby gets its first real bath in the tub.

Now for the important process of bathing. Have the bathtub two-thirds full of water, with the temperature carefully regulated. Lay the baby on your lap, flat on his stomach. If his garments open in the back, roll these up and draw them over the head, not over the feet, and lay them aside. Then wrap around him the flannel apron or square which you have laid over your rubber apron.

Wash the eyes with a bit of absorbent cotton which has been dipped into a lukewarm solution of boric acid—one even teaspoonful to one pint of water. Nostrils and ears are then cleansed with absorbent cotton and the boracic acid solution, a fresh piece of cotton being used for each operation. While the baby is very small the cotton

may be wrapped around a wooden toothpick, from which the sharp point has been removed.

Next comes the very important washing of the genitals, which, if not properly cleansed, will soon become chafed. With a girl baby the organs should be washed daily with a solution of boracic acid stronger than that used for the eyes, ears, and nose—two teaspoonfuls of boracic acid to one pint of water. If any discharge is found, the boracic acid solution must be used not only at the time of the bath but again in the evening. Wash the genital organs of a boy baby daily; the foreskin should be pushed back at least twice a week, while the parts are bathed gently with absorbent cotton and boracic acid solution. If the foreskin cannot be drawn back or is tightly adherent, the mother should call the family physician's attention to the difficulty, and he will decide whether circumcision is advisable. Under no circumstances should the mother or nurse attempt to stretch the skin forcibly.

All the special organs having been cleansed with boracic acid solution, the face and head are washed off with clean gauze and patted dry with a soft towel.

If there is a tendency to scurf or scales, rub the head every night with sweet-oil, vaseline, or cold cream, wash it gently off in the morning and, after drying, apply witch hazel or alcohol and water in equal parts. Never use a fine tooth comb to re-

move these scales. If the growth of scales or milk crust is persistent, it may be necessary to stop washing the head, and cleanse it only with oil or cold cream.

Now baby is ready to be soaped and laid in the tub. Make a good lather with castile soap and warm water, and rub the baby's body thoroughly. Be careful not to get the soap in the eyes. Rinse this off in the tub.

There is an art in laying the baby in the water. Support the back and head with your left hand, grasp the ankles with your right, and very gently slip the little body under the water, being careful not to immerse the head: the sensation of water running into the ears, mouth, and eyes startles the baby and implants in him a fear of the daily bath. Support him with the left hand, and, with the right, rinse off the soap, using a piece of gauze or absorbent cotton. The very young baby should be kept in the water only long enough to rinse off the soap. As he grows older, and shows pleasure in the bath, he may remain in the water three, four, or five minutes. If, from the first bath, a child shows great fear and does not seem to outgrow this, do not plunge him directly into the water. Have a large square of muslin stretched over the tub, lay him on this and gently lower him into the bath, always keeping his head above the water.

Once the soap is rinsed off lift him out care-

fully, the left hand supporting the back and head, and the right hand holding the ankles. Have a warm bath-towel at hand, spread it over the flannel apron on your lap, and roll baby up comfortably in towel and apron. Pat him dry. Never rub. Rubbing may start up irritation in the tender young skin. Dust him with talcum powder; and be particularly careful about drying and powdering the creases.

Next sew on the belly-band. Draw on the shirt by slipping it over the feet, never over the head. Next comes the diaper and, finally, the Gertrude skirt and slip. Draw these up from the feet, never over the head.

Then the baby is ready for his feeding and good sleep.

Physicians quite generally agree that the best hour for bathing the baby during the first year is in the morning before the second feeding. This gives the busy mother a chance to get her breakfast work out of the way, her husband off to business, and the older children off to school. As one who has been her own housekeeper and cook, I know that it seems very hard to stop in the middle of a busy morning, when every room in the house calls for attention, and give half an hour or more to bathing the baby, but if this becomes a habit with mother and child it means a quiet, comfortable baby, and several peaceful hours in which the mother can catch up with her household duties.

Irregular bathing is disturbing to a baby, and, while the average mother may think that she can spare the time better just before his bedtime, she should realize that this is the family supper hour, and if she postpones it, baby's sleep is disturbed.

You will notice that I have not spoken of washing out the baby's mouth. Many of the best baby specialists claim that Nature has supplied a cleansing element in the saliva and that washing the mouth is unnecessary; that it may cause thrush or other affections of the mucous membrane. Other equally good authorities hold that the mouth may be cleaned with a swab made by wrapping absorbent cotton around a wooden toothpick; this is dipped in cool water that has been boiled, and the folds between the gums, lips and cheeks are gently cleaned out at the time of the morning bath and also before the baby is put to bed for the night. Both medical factions agree that the old custom of wrapping a bit of soft linen around the mother's forefinger and using that to cleanse the baby's mouth is dangerous, as it is too large and apt to injure the delicate mucous membrane. If the mouth is washed at all it must be done with great care.

In case of thrush or sprue, which consists of tiny white threads or flakes on the inner side of the lips and cheeks, and even on the tongue, the mouth must be washed carefully, after every feeding or nursing, with a solution of borax—one even

teaspoonful to three ounces of water. Thrush or sprue may come from other causes than washing the mouth, and it is wise to call a physician if it appears and spreads.

The system of bathing and cleansing so far described is suited for the normal baby only. Some children should not have a daily tub bath. This includes anemic or very delicate infants, and babies suffering from acute illness, when the exposure and fatigue of a bath might drain the already depleted system too heavily. In case of eczema and certain other skin affections, bathing with soap would increase the trouble. Your family physician will prescribe a method of cleansing the baby's body in case it suffers from eczema or any other serious eruption. The very feeble child may be rubbed with sweet-oil when too weak to stand a tub bath, and common cooking salt or sea salt has been found useful in giving a bath to a delicate child. The water is prepared by adding a cupful of cooking salt or sea salt, which can be purchased at any druggist's, to each two gallons of water.

When a child is suffering seriously from prickly heat, soap should not be used. Instead tie a cupful of bran-meal in a bag of muslin or cheesecloth and squeeze this in the water until the latter takes on a milky color; this bath is particularly soothing to infants with very delicate skins.

When a child chafes easily, particularly at the

buttocks, a soda or a starch bath is soothing. One tablespoonful of bicarbonate of soda should be added to the water in the usual infant's tub, or half a cupful of laundry starch, powdered very fine, to the same quantity of water.

When a child is suffering from fever, due to teething or indigestion, and in very hot weather, in addition to the regular morning bath it may have a sponge bath just before bedtime. This may be of plain, tepid water, or of water and alcohol—a quart of warm water to eight ounces of alcohol.

Many mothers think that the daily bath is sufficient to provide for cleanliness in a child. This is a mistake. From the very start a child should learn that to be clean is to be comfortable. Particularly if the mother is careless about changing the diapers and the bedding, the baby will actually become accustomed to the discomfort which follows and will not resent it. If the diapers are changed immediately they are wet, the baby will cry bitterly when he is neglected and allowed to lie in a wet diaper or other clothing.

At four months the healthy, normal baby should be trained to sit upon a small infant's chamber at certain times in the day for the bowels to move. These chambers come in very small sizes and, as the baby is too small to sit alone, the mother holds the chamber in her lap and supports the baby with her arm or against her breast.

When he is strong enough to sit up alone, the chamber is covered with a low, comfortable chair, which allows the feet to rest on the floor. The seat of the chair is protected by a rubber ring, which can be bought from any store where sanitary supplies for children are sold; this can be taken off and cleansed, and is a great improvement on the ordinary wooden seat. The use of a chamber of adult size is most undesirable for two reasons: it is so uncomfortable that the child cries and the movement is retarded rather than encouraged; and in the strained position certain organs may be displaced. It is best to use the little chamber and low chair twice a day, directly after the feeding in the morning and before going to sleep at night. When the child is older he will become accustomed to one movement of the bowels each morning.

At eight months the mother should begin to train the child not to wet the diapers. To this end he is placed on the chamber or chair every hour, and in a surprisingly short time he learns, by training and instinct, that he can control the urine. The baby thus trained will never lie contentedly in wet or soiled clothing, and will develop into a child of cleanly habits.

A word of warning here about the care of the diapers. They should never be used twice without washing. When soiled by a movement of the bowels, they should be washed off immediately

and then dropped into a pail of water until the mother or nurse has time to wash them thoroughly. Each wet diaper is added to the same pail. It is a great mistake to wash these diapers in a solution of sal soda, washing-powders, or strong soap. If a good white soap is used the mother will be repaid in the freedom of her child from chafing or eruptions. The diapers, like all of baby's clothing, should be rinsed until absolutely free from soap. Nightdresses, skirts, and slips should not be starched. Diapers may be taken from the line when dry, smoothed, folded, and placed under a weight—never ironed.

All of this takes time; but it is also a time-saver, because the dry, clean, comfortable baby makes very little trouble in the household and interrupts the mother in her duties only for the regular routine of bathing, feeding, and undressing. Many mothers who spend hours embroidering tiny frocks or sewing on yards of lace will hurry through the process of bathing, or be careless in the handling of diapers and other clothing which will chafe the baby's delicate skin. Love which expresses itself in the overdressing of the child is far less practical than that which expresses itself in cleanliness and sweetness for all that surrounds the child.

The careless, untidy mother has no right to expect Nature to keep her child fine and healthy. He may be well proportioned and strong at birth,

but he will soon lose strength and health if he is not kept clean. A child has the right to cleanliness; and the child who grows up careless, untidy about his person, generally owes his displeasing habits to the thoughtlessness or indifference of the mother, however well she may love him.

## CHAPTER IX

## FRESH AIR AND SLEEP AS HEALTH PRODUCERS

HEATING AND VENTILATING THE NURSERY—OUTDOOR NAPS—SLEEPING HOURS FOR THE NORMAL BABY—WHY SOME BABIES DO NOT SLEEP

WHAT the bath is to the baby's skin, fresh air is to the baby's lungs and entire organism; while sleep bears the same relation to the baby's nerves that food does to its body. The lungs and, incidentally, the blood are purified by fresh air, and the baby should have it in plenty practically from the day of its birth.

Many of us can look back to the day when the new-born baby was wrapped up in a shawl like a wee mummy; not so much as the tip of its nose, let alone its rosebud mouth, was exposed to the air. When at last its timorous guardians uncovered the small face the baby was permitted to breathe, not pure air, but the atmosphere of a room with every window closed, and heated by an air-tight stove besides. If the baby was taken out for the so-called airing its face was covered with a

blanket or a thick veil. The result was generation after generation of children afflicted with catarrh; now between the gospel of fresh air and operations for adenoids, catarrh is rapidly disappearing.

While this is a fresh air age, the mother should not go to extremes in supplying the air her baby needs, nor in "hardening" its body as some faddists maintain. The baby should not be chilled nor exposed to a direct draught. The air in the room should be cool and pure, not hot and fetid. In this one respect, strangely enough, the city baby has the best of the country baby. The average city house is uniformly heated by steam or furnace, and easily ventilated. The country or farm house is still heated largely by stoves. One room is very hot, others very cold. The warm rooms are places of refuge for the entire family and they are kept too hot; often every window is closed tightly and the air is sadly vitiated.

This statement is proved by the fact that at Better Babies Contests, held in connection with State Fairs, where championship prizes were offered, one for city babies and one for rural babies, the city children scored higher than the country children and showed a better chest development. The country baby should have the best air to breathe, but it rarely does have it, because its home is seldom well ventilated, and because its busy farm mother has so little time to take it out into the fresh air. The city mother is constantly

reminded of dangers from impure air, by newspaper writers, by talks at clubs and social centers and at clinics. Even her older children come home from school preaching the gospel of fresh air for the family baby. She is shamed into ventilating her house properly and taking her baby out for a daily airing.

The country mother keeps her house closed in winter to shut out the cold, and in summer to ward off heat, dust, and flies. Her baby has small chance to breathe fresh air.

From the beginning, the baby, city or country, should sleep in a ventilated room, window open top and bottom, at a temperature of from 65° to 70° F. A thermometer is a better investment than cough-syrup. A baby raised in a uniform temperature will not need cough-syrup. The crib should not stand in a draught but be protected by a screen. If the room is very small, opening on a larger room, let the ventilation come from the larger room. Happy, also, that mother whose house can boast an open fireplace. This room should be chosen as baby's nursery. Open-fireplace ventilation is ideal.

Whenever possible the baby should be tucked warmly into a carriage and allowed to sleep outdoors in the daytime. Only extreme cold and inclement weather should prevent this sensible plan. Nor should the baby's face be covered while sleeping outdoors. A sunny corner of the

porch is an ideal day sleeping-room, with the carriage screened from the sun. In summer, a mosquito net should protect the baby from flies, gnats, etc.

Never should a child be allowed to sleep in a room with gas or lamp burning low. The fumes from such illumination are extremely bad for the lungs. They exhaust the oxygen which the baby needs so sorely.

The busy farm mother who cannot take her baby for a daily airing has no excuse for not letting it sleep outdoors. If she has no carriage she can have casters put on the crib and roll it out on the porch, or even a deep box or basket can be padded and baby can be made safe and comfortable. When the baby begins to sit up and play, a similar padded box or small fenced enclosure should be built on the porch for a nursery. It is a positive injustice, nothing short of criminal, to keep a delicate baby in the kitchen.

Many a mother worn out by a fretful baby will secure rest for herself and good health for the baby by making it comfortable outdoors. The sleep in fresh air is restful, and babies that will not sleep well indoors acquire the habit if placed on the quiet porch or under a shady tree.

The sturdy baby should have its regular daily airing, weather permitting, from the age of two weeks. At six months the airing in his carriage—exclusive of sleep, understand—should last an

hour; and the time should be gradually increased until, at five or six years, he plays the greater part of the time outdoors by habit.

If the day is inclement, rainy, blustery, at least open the nursery window and, dressing the baby, cap and all as for his daily ride, let him breathe the air for a half-hour or more. In winter the daily ride should be given during the sunniest time of the day. In summer, choose the cooler hours, early morning and just before bedtime.

The healthy baby is a sleepy baby. When a baby does not want to sleep, when it is restless and wakeful, one of two conditions exists: either it has been spoiled and actually trained to be wakeful by a thoughtless mother, or it is in need of medical care.

A baby comes into the world sleepy. If well and left to his own devices, he sleeps twenty-two hours out of every twenty-four during the first few weeks of his life. The mother who interrupts his slumber to cuddle him or show him off is endangering his health, and her future peace of mind.

Take a lesson from puppies and kittens. They sleep day and night. The wise mother-dogs and mother-cats do not disturb them. The wise housemother tells her children not to touch or disturb the new-born pets, and yet she will permit family and friends to break in upon the slumber of the new-born baby of the household.

Directly a baby has been ushered into the world, washed, dressed, and fed, it goes to sleep. Unless roused for feeding, it is apt to sleep many hours. This is nature's warning to mothers that new-born babies need just three things—warmth, food, sleep. And for the future good of the household, the greatest of these is sleep, and the habit of sleeping. When a new-born baby is permitted to sleep and trained to sleep, the family and the household routine are not disturbed.

The healthy baby starts life by sleeping two or three hours, and then waking to be fed. If the quality of the breast milk or bottle milk fed him is sustaining and satisfying the three-hour interval is correct. If the milk is not quite heavy enough he may wake at intervals of two hours and a half; but no baby should be fed oftener than once in two hours. If he does not sleep in stretches of two hours there is something wrong with his general health or the quality of the milk he takes.

For two or three months the baby varies this monotony of eating and sleeping only by an enforced daily bath and an occasional crying spell. Some babies drop right off to sleep after being fed; others cry a little. Moderate crying does not hurt a baby nor indicate a serious condition. It is about the only form of exercise he has, and, in moderation, is good for his lungs. But if his sleep

is badly broken and his crying is shrill and prolonged, his digestion is probably at fault.

If the baby wakes up inside of two hours, and there is no evidence of ill-health or discomfort, the mother should let him wait, even if he cries, until the two-hour limit is up. This period she can gradually increase to two hours and a half, and then to three hours. The healthy baby is easily trained.

Of course, a dimpled, rosy baby is a great temptation to the mother, especially when she is lying restfully in bed, with a nurse in attendance. It is so delightful to snuggle the baby against her, and cuddle its tiny fists, to smooth its soft cheek and silky hair. But every time baby's sleep is interrupted by these maternal pettings, mother is laying foundations for future trouble. When she is up and about, with no nurse to relieve her, and household duties to perform, she will wish that she had trained baby to sleep to the limit of his desires and inclinations.

At the third month the baby begins to take notice of what goes on around him and will lie awake a little longer between naps. If undisturbed, however, he will soon drop off to sleep of his own sweet will.

At six months he should sleep from six o'clock to six straight through the night, with just one feeding at 9 P.M. This 9 P.M. feeding should be given quietly and the baby immediately re-

turned to his bed or crib. He should also be having two naps a day—from nine till eleven in the morning, and from one till three in the afternoon. If he sleeps too late in the afternoon he will be wakeful at six, the hour set for going to sleep at night.

After his first birthday baby has only one daily nap in the early afternoon; but the twelve-hour sleep at night is essential to his health until he has passed his sixth birthday. It is nonsense to say that a young child does not want to sleep. Nature cries out for sleep. Parents interfere with nature by starting the baby off wrong and teaching it not to want sleep. The best argument is that the baby who is kept up to romp with Papa in the evening, at the age of two, three, or four years, is a late sleeper in the morning, irritable and heavy.

The baby should not be rocked to sleep, nor should he be tucked into a carriage and then trundled to sleep. In clear weather he may be snuggled up in his carriage and set outdoors, in a corner screened from draught or direct rays of the sun, for both his morning and afternoon naps. At six o'clock he should be undressed, made perfectly comfortable, fed, and then laid down on a firm hair mattress without a pillow, to go to sleep without further attention. Do not form the habit of singing a baby to sleep or holding his tiny hand till he drops off. There will come evenings when

you are too tired to sing, or there will be other work for your busy hands to do—and Baby, not understanding, will raise his voice in protest.

From birth the baby should sleep alone in a dark room well ventilated. Baby knows no fear and needs no light. Neither does he need the warmth of an adult body. There have been sad tragedies of babies smothered by tired mothers, too heavy with sleep to know they had rolled over on the tiny, helpless form. There have been other cases where babies permitted to sleep with adults, afflicted with chronic disease, have contracted the ailment and died.

Ventilation is most important. Occasionally we read of unusual cases where parents boast that they have raised eight, nine, or ten healthy children in unventilated bedrooms. These children have been constitutionally strong enough to survive such doses of vitiated air. The modern mother does not take the chance. She supplies fresh air to her baby from birth.

Above all things, do not start your baby's sleeping habits with the warning "H'sh!" Have the room in which he sleeps as free from noise as your household habits will permit, and do not allow other members of the family to disturb him unnecessarily; but when he is asleep on the second floor do not demand that everybody tiptoe and speak in whispers on the ground floor. Remember that a healthy baby is not a nervous in-

valid whose "nerves" must be saved in every possible way. Rather take it for granted that he was sent into the world with sound nerves and a normal appetite for sleep as well as food.

If your baby does not sleep normally and peacefully, find out why, even if this means calling in the family physician. His restlessness, when he and the rest of the family should be sleeping, is probably due to one of the following causes:

First, improper feeding, which causes indigestion. If the baby is being nursed, mother's milk may not be rich enough and the baby is actually hungry. If it is bottle-fed, the wakefulness may be due to overfeeding. One of the most common forms of improper feeding is frequent nursing in the night. When a baby starts life by being fed three, four, or five times during the night, it develops into a poor sleeper.

Second, improper clothing: night clothes that are too tight or that contain too much wool and irritate the skin; bedding that is too heavy, or bedding that is not sufficiently warm, in which case use a hot-water bottle encased in flannel, as described in the equipment for the nursery, Chapter II.

Third, foul air. Remember the baby is very sensitive, particularly to gases. The fumes from a lamp, turned low, or from gas, will pollute the air and make the baby wakeful.

Fourth, breathing-trouble; due to enlarged ton-

sils or adenoids, in which case the child is very restless, throwing itself from side to side and often lying face downward.

Fifth, nervousness; due to poor training, such as taking the baby from its bed whenever it cries, or keeping the nursery lighted, or romping with the baby just before bedtime.

Sixth, acute pain, which causes the child to wake with a sudden, sharp cry. In this case have a physician give the baby a thorough examination. This may be a symptom of scurvy, or even of more serious constitutional disease.

Never quiet the child that is restless at night with soothing-syrup or narcotics of any kind. Have the family physician uncover the cause, and remove it.

# CHAPTER X

## HOW THE NORMAL BABY GROWS

WHAT SHOULD YOUR BABY WEIGH AND MEASURE?—TESTING THE BABY'S MENTAL DEVELOPMENT—HOW SOON SHOULD THE BABY WALK AND TALK?—CRYING, CAUSE AND CURE

THE efficient mother does not need a doctor to tell her whether her baby is growing and developing at a normal rate. She has a certain set of standards by which she measures her own child's development. Physicians have compiled tables of standards showing normal weight and measurements, the dentition table published on page 101, also certain tests known as mental and developmental, which are based largely on the Binet-Simon standards of mental development. Any mother who reads this chapter can assure herself as to whether her baby is keeping up with the standards as a normal child should.

First, she should know whether he is gaining daily in strength. The scales and the tape-line tell the story of baby's physical development. He

should be weighed once a week, and measured once a month till a year old. He should be weighed when stripped and before feeding.

The best scales are those known as the grocer's platform scales, weighing up to twenty-five pounds. The bar must be divided into ounces, and on the platform there should be one of the wicker weighing-baskets which can be bought at any department or drug store. Either dial or spring scales are inaccurate, as baby's every movement affects the spring. The ordinary steel tape-line, which may be purchased at any hardware store for twenty-five cents, is better than a linen tape-line.

At birth the average baby weighs seven pounds. The first few days after birth he loses a little. Then, if he is normal and healthy, he begins to gain in weight as well as to grow. Until he is six months old his average gain in weight should be from four to eight ounces a week. At six months his weight should be at least twice what it was at birth. He should then take on about two and one-half or three ounces a week until he is a year old. After that his gain is five pounds a year.

The following table of weights and measurements, prepared by one of the most eminent children's specialists in the East, will show the average growth of a healthy child:

TABLE OF STANDARDS

| Age in Months | Weight | Height | Circumference of Head | Circumference of Chest | Circumference of Abdomen |
|---|---|---|---|---|---|
| | lbs. | in. | in. | in. | in. |
| 1 | 8 | 21¾ | 15 | 13½ | 13½ |
| 2 | 10½ | 23¼ | .... | .... | .... |
| 3 | 12 | 24 | .... | .... | .... |
| 4 | 14 | 24¾ | .... | .... | .... |
| 5 | 14¾ | 25¼ | .... | .... | .... |
| 6 | 17 | 27 | 17½ | 17½ | 17½ |
| 9 | 19 | 28 | 18 | 18 | 18 |
| 12 | 20 | 29 | 18½ | 18½ | 18½ |
| 16 | 23 | 30 | 18½ | 18½ | 18½ |
| 20 | 24 | 31 | 18½ | 19½ | 19¼ |
| 24 | 25 | 32 | 19 | 20 | 19½ |
| 28 | 27 | 33½ | 19 | 20 | 19½ |
| 32 | 29 | 35 | 19½ | 20½ | 19½ |
| 36 | 32 | 36½ | 20 | 21 | 20 |

Very important are the proportions between the circumference of head, chest, and abdomen. When they do not correspond with the measurements given on this standard table there is a reason, and the mother should seek till she finds it.

For example, at twelve months, when Baby is cutting many teeth, the head, the chest, and the abdomen should be uniform in circumference. A head two inches larger is out of proportion and usually means trouble for the baby in teething, convulsions, intense nervousness, or brain disorder. Such a child must be carefully watched and screened from shock of any sort. At twenty months the chest should be gaining on the head; and at no time should the baby's abdomen be larger than the chest. If it is, his diet needs chang-

ing. He is being fed too often or too heavily, or there is gas on the stomach.

There are times, of course, when even a normal baby does not measure up to these standards. While teething he may lose flesh for a time, then regain it. If attacked by measles, or whooping-cough, or other juvenile ailments, he will lose flesh. If he does not regain flesh when the illness passes he is not convalescing properly.

The baby's mental and developmental growth should correspond with its physical growth. Here are some simple tests which any mother can apply:

At six months a child sits alone; plays with simple objects, like a spoon or a pencil; grasps for a watch; turns in the direction of unexpected noises, and follows moving objects.

At one year it *stands without support; walks with support;* plays with toys; listens to the ticking of a watch; looks in the direction of noises; follows moving objects; says one or two words; shows how it knows its mother by crying when taken from her; responds to children, and is interested in its surroundings.

At eighteen months it both stands and walks without support; says quite a few words; cries when taken from its mother; follows intelligently what is going on around it.

At two years it runs; joins words to make short sentences; speaks without defects; is interested in pictures; can point to eyes, nose, ears, etc.

At three years it talks normally without defects; repeats six syllables perfectly, "It rains—I am hungry"; repeats two figures, "6-4, 7-3"; enumerates objects seen in pictures; and knows the names of the various members of the family.

The mother should be absolutely certain that her baby's sight and hearing are good. If she has reason to suspect that his vision is imperfect, or his hearing defective, she should consult a specialist at once. It is not natural for a baby to suffer with ear-ache. Do not use laudanum to relieve ear-ache. Have your doctor learn the cause of the pain and remove it.

"When should my baby begin to sit up?"

"How soon should I let my baby walk?"

These questions are frequently asked by mothers at Better Babies Contests.

The normal, healthy baby, properly clad, given legitimate freedom will choose its own form of exercise and gain strength through a God-given instinct. The parent who retards its activities or stimulates them makes a grave mistake.

For a few weeks after its birth the only exercise a baby has or needs is crying. Crying in moderation is good, healthful exercise. At two months, if the baby is still sturdy, he should begin to have what is termed play periods. All his clothing except the belly-band or shirt should be removed. Then, with the temperature of the room at 70° F., he is laid on a bed protected from draught, and permitted to kick and roll as his fancy dic-

tates. When he is tired he will stop. Babies know better than grown-ups how to conserve their energies.

At four months, the healthy baby holds up his head and shows a desire to sit up with support. At six months he sits up with a pillow at his back. At nine months he is able to sit alone on the floor, with no pillow supporting his back; and, about this time, he will make occasional efforts to creep.

This is a critical time in baby's career. He is so cunning, so enticing, that parents and relatives are very apt to urge him on faster than nature decrees. As soon as he begins to creep adult hands offer to help him stand erect. He is overpersuaded to take the funny, tottering steps before the bones and muscles are strong enough to support his growing body. This may result in bow-legs, knock-knees, flat feet, pigeon-toeing, all sorts of defects in gait that are sad crosses to bear in later years.

Encourage, but do not urge, your baby to activity, during these months of rapid development. Let Nature direct his progress. She knows the condition of his bones and muscles better than you do. When he discovers that his feet were made to walk on, he will drag himself to an upright position by a chair or stool. If he is walking at twelve months, he is developing rapidly enough and taking sufficient exercise. If very heavy, and he does not walk until fourteen

months, do not worry. Nature is watching and guarding him. But if he is not walking at eighteen months, his condition should be examined by a physician, who may find backward mental symptoms.

One thing which often retards a baby's walking is heavy, bunglesome diapers. At one year a baby's habits should be such that diapers can be laid aside for drawers and rompers, which facilitate walking.

Another factor of daily life which interferes with baby's development is the pressure of duties on the average mother. She has so many other things to do that she cannot superintend her baby's exercise. So long as he is safe from danger, and is amused and quiet, she does not realize that he is suffering from lack of exercise. I have seen babies strapped in carriages and high-chairs for long stretches of time, without any change of position, without any opportunity to use their muscles, simply because they were amused and quiet, not disturbing "Mother." An occasional change of toys, a cracker or a sweet, even a "pacifier," are offered in lieu of what the child needs, exercise for its cramped muscles. This sort of child does not learn to creep or walk as it should, because it is given no opportunity.

Many women ask whether their babies should be "exercised." If this means a system of rubbing, working of muscles, artificial exercise and

stimulation for the normal baby, I should say most emphatically "No!" Calisthenics of any sort should not be forced on a young child; many a well-meaning father with physical culture fads has developed a normal, healthy child into a nervous, pallid baby, by attempting to give it exercise designed for sluggish adult systems. Even a good thing like physical culture can be misapplied.

If a baby is listless, puny, and backward, consult a physician; do not apply your own particular methods of stimulation. What your child may need is better nourishment, not exercise that will weaken it further.

A very common question asked by young mothers is this:

"How soon should the soft spot on the top of Baby's head close?"

The "soft spot" referred to is known to physicians as the fontanel. At birth, it is like a wide separation of the bones on top of the head, and feels like a hole in the skull. Gradually this opening closes, and the top of the head becomes firm and hard. The time of closure varies from fourteen to twenty-four months, but the average is eighteen months.

A mother should guard the shape of her baby's head with care. In tucking him into his crib it is advisable to lay him first on one side and then on the other, and always with his ears carefully laid

back. If the ear is pressed forward or curled up for hours at a time, it may become slightly misshapen. Ears that are protruding at birth are a real deformity. They cannot be cured completely, but the defect can be reduced if, from birth, the baby sleeps in a ventilated cap made for the purpose.

A mother should know whether her baby breathes properly. The child that suffers chronically from "snuffles" needs medical attention. If he does not receive it, he may develop a case of catarrh that will make himself and everybody around him miserable. The baby that breathes with its mouth habitually open is generally found to have adenoids. Mouth breathing always justifies an examination of the baby's throat by the best specialist at command.

A mother should know why her baby does not speak distinctly from the day it first forms words. The normal child is born a mimic. It tries its best to speak precisely like the older persons with whom it comes in contact. If the speech is defective, thick, guttural, and unintelligible, a physician should examine the mouth, throat, and nose. There may be a growth in the passageway, enlarged tonsils, trouble with the palate, or the child may be tongue-tied. This advice does not refer to the baby under one year of age whose gooing and gurgling cannot possibly be interpreted as speech. But once the child utters words like

"Mama," "Papa," "baby," "bottle," etc., the sounds should be reasonably clear.

If an examination does not disclose any physical defect to interfere with clarity of speech, then the baby has been started wrong, often permitted to develop slovenly habits of pronunciation. The task of curing this defect lies with the mother, who can correct it gradually by persuading the child to repeat words, over and over, until they are clear and distinct. Lisping, stuttering, mispronouncing certain consonants, twisting and omitting certain letters, are tricks of speech which can be cured, if the mother takes them in time. It is most unjust to the child to encourage these peculiarities; as, once they become habits, they are hard to break. I have heard children five and six years old talking a jargon which only immediate members of their family could interpret; and I have seen mothers punish children of school age for tricks of speech which were considered "cute" when the baby first learned to talk.

When a child reaches the age of eighteen months without making any effort to talk, and if he points to objects rather than asks for them, he should be taken to a physician for physical and mental examination. It may be found that he is merely lazy, and he has learned that he can get what he wants without asking. Then he must be encouraged, not urged, to talk. The child who

is not talking at thirty months is either mentally deficient or deaf.

A mother should know why her baby cries. In a very young baby, as I have said before, a little crying is good exercise. This is baby's way of demanding notice.

If an ordinarily contented baby, presumably comfortable, dry and well-fed, persists in crying, the mother should investigate. Among small causes of discomfort may be mentioned an open safety-pin; an over-tight belly-band; folds in those instruments of torture, the muslin bands of skirts fastened with safety-pins; a small arm twisted under the body; sun shining into the eyes; flies or mosquitoes; and wet diapers. Make a baby absolutely comfortable in clothing and position, and he will not cry long.

The following table of reasons why babies cry is reprinted, by permission, from "Hints to Mothers Who Want Better Babies," issued by the Better Babies Bureau:

His food is not right.
He is fed too often.
He is fed too much.
He gets ice-cream or candy.
He is fed or taken up whenever he cries.
He is dressed too warm.
He is dressed improperly.
He needs a bath.
His bowels do not move properly.
He is wet.

He is kept up too late.
He sleeps in a hot room with windows shut.
He is carried, rocked, or bounced.
He is taken to the "movies."
He is given a pacifier, soothing syrup, or cathartics.

If the mother's conscience is easy on all these points, then she must look for a deeper and graver cause. To do this she must first learn to analyze the different forms and varieties of crying. In the new-born baby, crying is normal and useful. It expands the lungs and improves the circulation. This form of crying is loud and strong and has a healthy ring, not like a scream. The baby becomes red in the face from the effort, and generally turns silent as suddenly as he began to cry. A young baby can cry from fifteen to thirty minutes a day and be none the worse for this form of lung exercise. Young mothers frequently express fear that such crying will cause rupture. Nature has provided against this catastrophe.

Abnormal, unhealthy crying strikes the maternal ear immediately as unnatural. Also, it lasts longer and comes at more frequent intervals. It can be traced to various causes, such as temper, habit, hunger, pain, and illness. The temper cry is louder and stronger than the normal cry, and is best described by the word violent or tempestuous. It is usually accompanied by vicious kicking, even in a very young baby, or by the stiffening of the entire body. The cry which

springs from indulgence or habit has much the same quality but is less violent. It generally follows in the train of some indulgence permitted during the first few months after birth, and then regretted by mother or nurse. This habit may be rocking, wheeling in the baby-buggy, a bottle to suck and hug after all the milk has been drawn off, a "pacifier," or even a light in the nursery. To test the cry, try distracting the attention. If it come from temper it will often yield to change of thought. If it spring from indulgence or habit it will cease immediately baby gets what he demands, whether this be attention or a "pacifier."

This sort of crying can be cured only through stern discipline, represented by allowing baby to cry it out. The first lesson may mean an hour of bitter, determined shrieking on the part of the baby, and great mental anguish for the mother. But if the mother is quite satisfied that temper or habit is at fault, she must stand firm for discipline. The second attack will be lighter, and baby will soon learn that violent crying does not bring results.

The hungry-cry is continuous and fretful. If the baby is fed regularly, then the quality of the food must be improved, or the strength increased. The tired, fretful hungry-cry is a danger signal. It points to malnutrition.

The cry of pain is sharp, shrill, and strong,

and generally intermittent. It is frequently marked by jerking and by the drawing up of the legs, and by a contracted or pinched look about the face. No time should be lost in locating the cause of this cry.

Another cry which demands immediate attention is the hoarse, throaty cry, which indicates cold, incipient croup, or bronchitis.

The saddest cry in the world is that of a helpless baby when it is seriously ill. This is a low wail or moan, indicating that the baby has passed the point where it can fight against pain. It strikes terror to the heart of that mother whose child is suffering with "summer complaint" or any form of bowel trouble. When the child screams out sharply in the night, not once or twice, but habitually, it should have medical attention. This is one symptom of bone tuberculosis.

Most crying can be traced to physical discomfort which can be relieved, or to spoiling and indulgence which can be checked. In this day of intelligent care and disciplining of children, there is absolutely no excuse for having a screaming baby in the house. The modern mother not only realizes that behind the crying lies a good and sufficient cause, but she traces the cause to its lair—and lays it low.

## CHAPTER XI

## BABY-COMFORT THROUGH CLOTHES

TIGHT BELLY-BANDS MAY TORTURE BABIES—UNDERWEAR THAT DOES NOT IRRITATE—EXTENSION SKIRTS TO PROTECT THE FEET—DRESSING THE BABY IN HOT WEATHER—HOW TO HANDLE THE BABY

BABY'S comfort, and, incidentally, the peace and quiet of the entire household, may be increased by intelligent selection and care of clothing. Every adult has experienced more or less discomfort from ill-fitting or unsuitable underwear, tight bands and shoes, yet in many homes where babies are deeply and truly loved clothing for the tender little bodies is chosen thoughtlessly and adjusted carelessly. Even the mother who threatens her own eyesight, embroidering dainty bits of linen for the layette, may fairly torture her baby by supplying underwear that irritates the delicate skin.

Perhaps in no other way does the American mother so disturb the comfort of her baby as in the ill-advised use of the belly-band. She will criticize the Chinese mother for binding her baby-

girl's feet, and the Indian mother for strapping her baby to a board, and then she will calmly pin the belly-band so tightly around her own baby as to interfere with his breathing and digestion.

In common with the average woman, uneducated and untrained for motherhood, I recall that I overestimated the importance of the belly-band in clothing my own babies; but I never realized that it was still being transformed into an instrument of torture until I attended Better Babies Contests. There, watching mothers undress their babies for the physical examination, I was shocked at the ridges, the cruel red lines, left by the discarded strips of flannel. And I heard many a good doctor lecture these mothers severely for the tightness of the bands and the discomfort the baby had endured.

After this experience, I believe that many a baby accused of being irritable and wakeful or others dosed for colic are merely suffering from the stricture of the belly-band. Mothers who have had to endure the torture of an ill-fitting, tight corset for a day or more, please give this matter consideration.

Many mothers do not understand the dual mission of the belly-band. They have the erroneous idea that it must be fastened very tightly over the navel to prevent rupture both before and after the cord comes off. This is a grave mistake, and leads to unnecessary suffering for many chil-

dren. The belly-band supports the abdomen while the baby is very young and tender, and it protects the bowels from abrupt changes in temperature. It is not a truss nor a surgical instrument, but a protection to the baby's very delicate organs and system immediately after birth. This fact must be borne in mind by every young mother.

Another memory of my untrained motherhood is that of overdressing my babies. Next to my wedding trousseau the most elaborate task of sewing I have ever done was the layette for my first baby. What overtrimmed, useless things were included in this labor of love! And how inconsiderate that first baby was in outgrowing the pretty things I had prepared for his coming!

One of the most comforting features of my visits to Better Babies Contests has been the increasing evidence of sanity and consideration in dressing babies. Mothers are gradually being educated up to the point of supplying simple comforts for babies, and frills for where they belong —on pincushion covers! As a rule, prize-winning babies at these contests are simply, sensibly, comfortably dressed.

A woman who makes a specialty of supplying layettes offers the following list as amply sufficient for the baby born to a family in good circumstances:

4 unhemmed belly-bands.
4 shirts.
4 nightgowns or wrappers.
4 flannel skirts.
2 simple skirts of nainsook, longcloth, or lawn.
6 slips of nainsook, lawn, or batiste, simply made.
4 pairs of socks or stockings or bootees.
2 dozen diapers, 18 inches square.
2 dozen diapers, 22 inches square.
1 loose warm sacque, knitted or made of French flannel.
1 loose, soft cloak for outdoor wear.
1 soft cap, silk-lined.
1 pair mittens.

This list contains every essential, and may be varied according to the taste and pleasure of the mother. However, it may be mentioned in this connection that a large layette of long clothing generally proves a waste of labor and money. The normal baby soon outgrows it, and as styles change in baby's clothing, as well as in adult raiment, it is now the custom to shorten the baby's clothes at six months, or even less.

Now as to the materials and their fashioning into the adorable little garments:

The belly-band, which is the first garment used in dressing the baby, must be neither hemmed nor bound. It is of soft, fine, white flannel, six to eight inches wide, and eighteen inches long. It encircles the little abdomen just once and may be adjusted firmly in one of two ways—either by sewing it on with large basting stitches, or by using five *small,* well made safety-pins. The lat-

ter are entirely safe if of good quality with the points perfectly protected. The present fad for sewing on the band rose from the fact that the cheap, poorly made safety-pins often came open and pricked the tender flesh.

The belly-band is generally worn until the baby is two months old, when he becomes so active that the strip of flannel slips up from the abdomen to the chest and interferes with his breathing. When he is active enough to displace the band, his abdomen is firm and strong enough for the band to be discarded as a binder and support, but some protection to the bowels must be substituted. A knitted band with shoulder straps is best, and these can be bought at any department store or shop which deals in clothing for children, in three weights. The best weight for average wear is a medium silk-and-wool mixture. The mother who knows how to knit can buy a sample band and copy it with little trouble. The baby continues to wear this knitted band until he is a year old, and longer if he has a tendency to bowel trouble while teething.

Silk-and-wool or cotton-and-wool shirts are preferable to all-wool for the tender skin of the new-born baby, even in cold climates. In warm weather the little shirt may be all cotton, but it should be high-necked and long-sleeved.

The small sized diapers should be used at first, with squares of worn, soft linen folded inside.

Old handkerchiefs, napkins, or damask towels can be saved for this purpose. The larger sized diapers should be used as baby grows, but they should never be sufficiently heavy or bulky to force the legs apart uncomfortably. Not only will the child be uncomfortable and fretful if the diapers are not properly fitted and adjusted to his small person, but misshapen legs are often the result of unnecessarily heavy and bulky diapers. Diapers of rubber sheeting should never be used, as they cause irritation.

Various materials are sold for diapering. There is nothing better than soft cheese-cloth for baby's first diapers. Later the average mother finds bird's-eye more satisfactory than cotton-flannel. There are many patent diaperings on the market. Avoid all those made with an interlining or one surface of rubber. For first diapers, a good material is old soft Turkish toweling. In this connection it must be repeated that it is safer to wash all of baby's clothing before it is worn. In this day of mercerized and "treated" fabrics there may be chemicals used in bleaching, etc., that will injure the tender flesh and start a case of eczema.

Next, the covering for the tiny feet. Tradition and maternal sentiment demand crocheted or knitted bootees and, strange to say, modern autocrats of baby-raising in the medical profession have not yet condemned them. The bootees may be made in silk-and-wool yarns, with wee draw-

ing-strings of soft ribbon or yarn-cord, which must never be tied tightly enough to cause a ridge around the leg or ankle. When the baby begins to kick vigorously a soft, silk elastic can be substituted for the drawing-string; but it must not be tight enough to bind the tender flesh.

The last warning may seem almost unnecessary to the average mother, yet at one of the Better Babies Contests a mother told me that she had solved the problem of keeping on her baby's socks in this unique fashion:

"Every time I looked at her feet she had kicked off her socks, and they were no good to her at all. So I took little chunks of brown laundry soap, moistened them, rubbing her legs and the inside of the socks with them, and I never had any more trouble. The socks stuck to the legs."

Quite likely they did—but what of the tender skin, plastered with vile laundry soap, reeking with alkali and unhealthy fats? Can you imagine what irritation might result?

For the active baby the diaper may be attached by safety-pins to the knitted band or shirt, and then long stockings may be pinned to the diapers. Never, NEVER use round garters on little babies. They will deform the limbs.

These long stockings, like socks, come in fine grades of cotton-and-silk, and pure silk. Children should never wear woolen stockings after

discarding the bootees. They cause perspiration and invite cold.

When baby's clothes are shortened, tiny slippers or moccasins made of kid or piqué are worn with long or short stockings, according to the weather. The fad of sending young children bare-legged into the cold is passing. It was supposed to harden the flesh and increase the child's powers of endurance. To-day parents realize that children should have their legs exposed only in warm weather.

Now for the flannel skirt, which for a month at least is the only skirt the baby wears. A very good model consists of two strips of flannel, silk-and-wool, or cotton-and-wool, one 25 inches long, and the other 30 inches, bound all the way round with a flat silk braid. The longer piece forms the back of the skirt, and folds up over the front like the flap of an envelope. This may be fastened with safety-pins or with very flat buttons and buttonholes or loops. It affords a perfect protection for the baby's feet. If the old-fashion straight skirt is preferred, it should be 26 inches long, finished with binding-ribbon or closely worked scallops. Hems in flannel always wash badly. Either one of these skirts is hung from the shoulders, never gathered on a band and pinned round the waist. What is known as the Gertrude skirt has shaped armholes, is closed back

and front and is fastened with little buttons over the shoulders.

When baby reaches the dress-up stage, for very special occasions, a white cotton skirt, 27 inches long, in nainsook, longcloth, or batiste may be added; but this, too, must be fitted over the shoulders.

The first slips worn by the baby should be of the simplest style and in the softest cotton material obtainable. They should be 27 inches long, or just long enough to cover the flannel petticoat. They are made without any trimming. Neck and wrists are finished with plain, flat, narrow bands. The neck is run and tied with fine flat tape. Lace or embroidery will cause irritation of the soft skin and may lead to eczema. If a mother feels that she must trim any of these little slips, let her embroider small designs around the bottom of the skirt, and on the front of the dress far enough below the neck so that even the wrong side of the embroidery cannot touch the flesh.

What were once known as "long clothes" are no longer used by intelligent mothers. The christening robe and its fellow-frocks which sweep the floor are now reserved for royal babies on state occasions.

For the first few weeks of its life the less the baby is handled the better, and it may sleep in the simple little slip which it wears during the

day. This means that its clothes will be changed only once in 24 hours: that is, in the morning, when given its regular bath. In cold weather the outing-flannel wrappers may be drawn over the slips, especially at night. Later the day slips may be removed when the baby is undressed for the night and outing-flannel or stockinette night-gowns may be substituted.

The little crocheted or knitted jackets and the kimonas of soft flannel are a concession to the sentiment of the mother rather than to the needs of the baby. If the room is cool during the first few weeks of the baby's life he may be wrapped lightly in a small woolen shawl or square of flannel, which is more easily adjusted than the jacket or short kimona with sleeves. Be careful not to wind the shawl around tightly. He will fret under the pressure.

The outdoor raiment, while baby is in long clothes, should be as simple as possible. For the baby born in the spring a flannel wool cape with hood attached, and a soft silk lining, is ideal for the first few outings. The baby who has his first airings in the fall or winter should be more warmly clad. One of the most sensible first coats for a baby I have ever seen is made of light-weight white eider-down flannel. The pattern is in three pieces—a pointed hood, such as you see in pictures of Eskimo children, the back and the front of the coat with seams on the shoulders under the arms and on either side of the garment.

The back of the coat, like the petticoat described on page 158, is longer than the front and turns up like an envelope flap to protect the feet. The coat opens down the front; and attached to the back is a pad made from rubber sheeting covered with cheese-cloth or nainsook. This can be washed, and it protects the coat from stains.

Mittens may be added for cold weather; but veils are no longer used for babies.

The most important thought to be borne in mind when fashioning the layette is that baby should be comfortable and clean. The average inexperienced woman makes the clothing too small. Baby either outgrows it or is bound round the waist, neck, armholes, and wrists. Give him room to kick and grow. If he frets after he is dressed and refuses to go to sleep, you will probably find that he is bound by some one of the little garments.

Cleanliness is only another word for comfort. Choose fabrics that wash well, and then wash them carefully. Never use strong soap, washing-powder, or starch on baby's clothing. Wash the flannels in tepid soapsuds made from a good white soap, and rinse them several times in clear water of the same temperature. Violent changes in the temperature of the water will make the flannels shrink. The unhemmed belly-bands will fray a little with each washing; but this is better than cutting the skin with hemmed bands.

Do not imagine that you can protect your

baby from colds by overdressing him. The average home, heated by furnace or steam, has a temperature of from 70 to 80 degrees. This is equal to summer weather outdoors and no child should be tortured with woolen underwear, heavy sacques, etc., in such an atmosphere. This warning against overdressing applies also to babies in the summer, even when they are passing through the dreaded period of teething. We can all remember the time when baby in his "second summer" was tortured with flannel to ward off summer-complaint. Science has proved that the baby who is suffering from heat will not digest his food. If a baby is normal, healthy, and gaining steadily in weight, in hot weather, he will need only the knitted band, diaper, and little slip. If the weather should change suddenly the flannel skirt can easily be slipped on again.

By the time a baby is six months old the clothes can be shortened; and they should be made long enough to give baby a chance to grow. Like his first garments, these should all be hung from the shoulder. Rompers should not be worn until the baby has been trained not to soil or wet his diapers.

As soon as the baby begins to walk he should have long stockings, with soft kid shoes to support the ankles. Moccasins, slippers, etc., do not furnish sufficient support for the ankles which are now being put to the first test.

The very best specialists in the care of children advise that children from babyhood be accustomed to light-weight clothing. They advise the use of balbriggan or cotton union-suits, with a flannel skirt for the little girl, and no flannels for the boy except his knickerbockers. If the weather is severe and the legs should be covered when the child is outdoors, leggings should be used instead of long flannels. The leggings can be removed when the child comes back into the warm house. The underwear cannot. The result is that the child perspires in the house, is coddled and weakened, and therefore more liable to colds when sent out to play.

There is an art in handling the baby which makes for its comfort and contentment. The less he is handled during the first few weeks of his life the better. If he is well and warm and sufficiently fed he will sleep about twenty-two hours out of the twenty-four. He has no desire to be moved, let alone played with, and if he is left to his own devices he will not demand attention, and, therefore, he will make little disturbance in the family circle. On the other hand, if the different members of the family fairly hang around the crib, waiting for him to wake up and be played with, they must not blame the baby if later on he demands attention throughout his waking hours.

The baby does not like to be trotted on a full stomach. It disturbs his digestion. It may make

him vomit and feel generally uncomfortable. The mother who is nursing her first baby may find it a cross to tuck the baby into his crib directly he finishes feeding. The temptation to cuddle the little form close, to pet him, to rock and hum him to sleep is very strong. Mother will do well to remember that, while she may have time for this enjoyable occupation to-day and to-morrow, next week or next month may tell a different story of work that must be done. Baby will not understand this change in affairs. He will have acquired the habit of being cuddled and rocked and he will demand the attention. So from the very first the mother should train herself, as well as the baby, that this practice is unnecessary.

Walking the floor or jogging the baby in his carriage is another bad method of handling. If a baby cannot go to sleep without some such process of soothing he needs medical attention. If he is a normal, healthy baby he will cuddle down under the covers of his crib and go to sleep after feeding.

Do not expect the baby, however, to sleep or lie quietly if he is not thoroughly comfortable. He must be dry and warm. For this reason he should have plenty of light-weight bedding; if his feet are cold tuck against them a water bag or bottle covered with flannel. In warm weather protect his crib or the carriage in which he sleeps outdoors from flies and mosquitoes. Both will

break his slumber or annoy his waking hours. More important, one variety of mosquitoes carry malaria; and on the feet of flies will be found the bacteria of typhoid fever, bowel infection, and the dreaded meningitis and infantile paralysis.

Beyond his daily outing the young baby should do little traveling. He is not strong enough even at a year or so to be taken into railway trains, street-cars, crowded places of any sort. Neither should he be shown to visitors. After he is a few months old callers may be taken into the nursery and permitted a glimpse of his charms; but they should not be permitted to pick him up, trot him, or kiss him.

Germs of tuberculosis, diphtheria, and many other serious diseases may be communicated by a kiss. No baby should ever be kissed on the mouth by other children, by nurses, visitors, or even by loving parents. If kissed at all, the spot chosen must be on the forehead or cheek, or, better still, on the dimpled hand.

After a baby is six months old the mother may play with him while he is enjoying his period of undress and relaxation on the bed. This should be in the morning or after the midday nap, never before bedtime.

Many mothers, even those whose first children have passed successfully through the dangers of babyhood, will call these precautions fads of the hour. They are not fads. They are valuable dis-

coveries in science and medicine. When we realize that the man who has passed his eightieth birthday has a better chance to live than the child eight hours old, we realize how many dangers surround the young baby. A shock may wreck a child's nervous system. A sudden chill may cause an attack of bowel trouble that will prove fatal within twenty-four hours. A kiss, laden with infection, may cause death or lifelong deformity for the child. Very few children are born nervous. They acquire it from a nerve-racking environment, or it is thrust upon them by parents who insist upon playing with them, taking them into noisy crowds, when all they need and ask is the right to sleep.

In lifting an infant, never grasp him around the chest or abdomen. Slip the palm of your left hand under his back, with the fingers stretched out to support the neck and head. Then, with the right hand, grip the clothing just below the feet. Never lift the baby without making sure that the spine and head are supported. And never allow the little head to hang unsupported over your knee or arm. In lifting older children grasp the body firmly under the arm-pits. Never under any circumstances raise the child from his feet by his wrists or hands. This strains the arm and the elbow sockets.

There is a way of making the baby comfortable even at play. I have spoken of undressing the

baby for a daily period of exercise on a bed in a warm room. Here he first learns to amuse himself, and his first toys are his own fists and feet. At six months of age he may be given toys made of firm rubber—dolls, animals, or rattles; the rattle should not be noisy enough to make him nervous. Rubber is good because it can be thoroughly cleansed. His instinct will be to put everything into his mouth; so that he must be given nothing that will break off easily, as he would surely swallow the loose pieces. He must have no Teddy bears or woolly dogs or other fabric toys. Bits of wool or hair will get into his throat, and they also carry germs. Neither should he have any toys with sharp points with which he can hurt himself, nor those which are painted. Many a child has been made seriously ill from sucking cheaply painted toys.

Never approach a child suddenly with a toy which makes a loud noise. I have seen a six months' baby jump and turn ashen white at the explosion of a toy pop-gun held close to his face, or at the shaking of a large and noisy rattle. Small babies are very sensitive to loud noises and abrupt movements; many of those unfortunate individuals, "women with nerves," could trace their present ailment to carelessness and thoughtlessness on the part of those who loved them best during their babyhood.

# CHAPTER XII

## DEFECTS AND HABITS

TAKING DEFECTS IN TIME—HABITS THAT MAKE CHILDREN UGLY—FINGER-SUCKING AND NAIL-BITING—BED-WETTING—VICIOUS HABITS AND THEIR CURE—NERVOUSNESS AND ITS TREATMENT—THE HABIT OF HAPPINESS

PHYSICALLY, mentally, and spiritually, the baby laid in the young mother's arm is a creature to be molded by the intelligence and wisdom of the woman who has borne it. Some women do not stop to define the wonderful, mysterious thrill which passes over them as they hold the precious gift close to their hearts for the first time. With other women a sense of responsibility, beautiful and almost divine, comes even before the child is born.

Barring deformities and constitutional defects, the average baby is pliable in the hands of the mother. The preceding chapters have told how a mother can give her child a fair start by intelligent care and feeding. In this chapter we will go farther and show how the mother can guard against ugliness in looks and character.

Mothers—and doctors—are waking up to the realization that preventive medicine is the crying need among babies. The day when babies were supposed to "outgrow" certain disfigurements or tendencies to disease or weakness is past. Most of us can look back to the barbarous practice of soothing a baby with paregoric and then trusting to nature to relieve the condition which made soothing necessary. We really seemed to think that a miracle would be worked while the baby slept!

If a baby had any terrible deformity or acute disease we turned to a surgeon or physician, but we took long chances when the baby was merely good. We never stopped to figure that a good baby could be made a better baby by intelligent care, a better baby transformed into a well-nigh perfect baby. And yet parents owe to the children they bring into the world precisely this care.

One of the most interesting features of the Better Babies Contests which I have visited has been the amazement of some mothers when they discovered that, with a little care and attention, they could work such wonders in their babies. As an example, in one city near New York, the physicians in charge of the examinations at a contest asked me if I would attend a meeting or "dress rehearsal" of the examination a few weeks before the contest. They wanted a demonstra-

tion of just how babies are examined by a score-card. So all the arrangements were made, the physicians agreeing to have a real baby on hand for a "model," to undergo the full examination.

The baby was scored precisely as if a regular contest were under way, and was penalized 5 points for a rough skin and 15 points for an eruption. The mother protested vigorously. The doctors showed her a fine eruption over the abdomen and under the armpits. She declared that the child had always had the marks—they were a sort of birthmark. The doctors explained that such an eruption indicated overfeeding. Here was a bottle-fed baby getting too heavy fare. The mother admitted that she knew nothing about modifying the milk. The doctors told her how it should be done.

The roughness of the skin was due to mosquito bites, numbers of them. The mother said that she couldn't help that and neither could the baby. That was the fault of the mosquitoes! The doctors did not agree with her. They explained that a careful mother protected her child from the mosquitoes with a netting, that mosquitoes carried disease, that the itching sores made the baby nervous.

The mother listened resentfully, especially when she saw that by the card her baby scored only 89. Nevertheless, she must have thought a great deal about what those doctors said, because when the

real contest was held in her city six weeks later, she entered her baby and it carried off first prize, scoring 98 per cent. The chairman of the committee in charge of the work wrote me that this mother had lightened the quality of the baby's food and the rash had disappeared. She had cleared the house of mosquitoes, and the baby's skin was smooth as a rose petal! Which shows that a Better Babies Contest makes mothers think—and act. Also, that a child can be made healthier and happier with just a little thought and attention.

Your child has a right to all the beauty with which you can endow it. If your baby has thin eyebrows and lashes, try to encourage their growth. It can be done. Feed the eyebrows with a little cocoa butter, or vaseline. If you are very careful you can even touch the lashes with a tiny camel's-hair brush dipped in melted vaseline. I know a man and wife whose looks were marred by scanty lashes and colorless brows. When her babies came this woman determined to do something to improve this unfortunate inheritance. She rubbed vaseline into the brows, had the lashes cut twice before the babies were three months old, asking the family physician, an excellent surgeon, to do this for her, and then she touched the roots of the lashes with melted vaseline. Her children, now in their teens, have beautiful brows and lashes.

It is absolutely criminal to let a child distort its mouth by sucking thumb or fingers. Let no mother deceive herself by saying that the habit is the child's great comfort, a natural soother and pacifier. In later years that child, especially if it be a girl, will call her mother to task for permitting the indulgence.

I have seen mothers actually start babies in this fatal habit of finger-sucking by giving them what is known as a "pacifier," or rubber nipple on a ring. It is natural for a baby to suck at something. He is born hungry. When he is very young he will continue making sucking motions with his mouth after the breast or bottle has been taken from him. If he happens to whimper the mother thinks the little sucking motion must be satisfied; she gives him the pacifier, or actually sticks his thumb into his mouth, and the mischief is begun.

The tendency to suck the thumb is easily checked. From the very start remove the thumb or finger and lay the little hand firmly down at the baby's side as he drops asleep. If he persists, then immediately—not after the habit is almost iron-clad—have him sleep with his hand in a mitten. It is never too soon to correct this habit. Better a crying baby to-day than a deformed daughter ten years from now. Thumb-sucking thrusts the teeth out, and in some cases

gives the entire lower part of the face the shape of a rabbit's.

Many mothers ask me about badly shaped hands, and stubby fingers. Even these can be improved or remedied by patient care soon after the baby is born. Press them firmly, steadily, into shape, a few minutes at a time, every time the baby wakens. Of course, if bones are misshapen they cannot be changed, but the stubby finger can be improved by pressure—*if taken in time.* But it does no good to rub the fingers one day and let them go three. It must be done patiently, regularly, and gently, every day while the flesh, bones, and nails are soft.

Biting the nails is a habit which may develop in a very young child. Many times this is a symptom of nervousness, but in the young child this is more apt to be simply a habit without a reason. If the child is old enough to be argued with it is much better to offer him some little reward if he does not bite his nails and they grow out well-shaped and beautiful. Try to make him see that they are something to be proud of. He will soon learn to master the impulse. In a child too young to be reasoned with it is better to remove the hands from the mouth firmly; if this is not effective, rub the nails with a little powdered alum.

Picking at the nose may be the result of worms or of irritation of the nostrils. If either of these

two ailments is present the cause must be removed. If it is purely a habit then it is a question of firm discipline which even a baby can be made to understand.

Bed wetting, which is a habit that makes extra work for the mother and causes discomfort for the child, may be a symptom of some chronic ailment, or it may be lack of discipline and training. It sometimes comes from incorrect diet, constipation, ringworm, irritation about the genitals, enlarged tonsils, or adenoids. The doctor will decide whether one or more of these defects is present. If not, then it becomes a matter of discipline, which, however, is not achieved by punishment. Only careful training will overcome this habit.

I have spoken in another chapter about setting the child on a little chamber every hour throughout the day from the time he is eight or nine months old. By following this practice the baby soon realizes that to be wet is to be uncomfortable and wretched, and he will cry out against it. Moreover, he will soon exercise his will to retain the urine until time to sit on the chamber. As this cannot be done in the night, up to the time he is eighteen months of age he is very apt to wet the bed once or twice during the night; but when the ten o'clock feeding is stopped and he has nothing to drink from 6 P.M. to 6 A.M., he

gradually stops wetting the bed; and at two years of age he is completely broken of the habit.

If a child has not been trained in this way the mother now realizes that the habit of wetting the bed is confirmed; and at three years old or more she should start training him afresh by putting him on the chair every hour throughout the day. In this way the functions of the bladder gradually come under the control of the will. At the end of two or three weeks, instead of placing the child on the chair every hour, the intervals are lengthened to one and one-half hours; then to two hours; and the mother suddenly wakes up to find that her child is dry all during the day. At first he may have to be taken up three or four times at night, but soon this can be reduced to two, and finally to one. When he is six years old he will be broken of the habit and will sleep soundly and be dry for ten or twelve hours.

If the habit is well-grounded the diet may be changed to effect a cure. The last evening meal of the day should be almost dry, with just an occasional sup of water to allay thirst; no liquids should be served after 4 P.M. Butter may be served with a cereal, and apple-sauce used to moisten the meal of bread, toast, or crackers. Never give a young child tea or coffee. These are not juvenile beverages; and they are especially bad for bed-wetting children.

If the habit has grown on the child, discipline

alone will cure it. If, however, it amounts almost to an acute disease, overtaking the child suddenly after it has passed its second birthday, the baby should be examined by the family physician.

Masturbation is a habit which every mother should dread. But she should consider this, also, in the light of a symptom first and foremost. I do not believe that average children, of average parents, are born into the world depraved or with vicious tendencies. The terrible habit of masturbation, which breaks down the child's physical, mental, and moral nature, and often turns a healthy, normal child into a defective, may be caused by carelessness on the part of the mother. The genitals are extremely sensitive and easily inflamed. If the parts are not kept immaculately clean there is discomfort, which the child tries to relieve by scratching the genitals, by rubbing them against the leg of a chair or table or by rubbing the thighs against each other. It is a simple and natural effort to secure relief from irritation, precisely as a child scratches his arm or neck after being bitten by a mosquito. For this reason the mother should wash the parts carefully, not only while the child wears diapers, but as he grows older. When he is old enough to wash himself the mother should explain the importance of cleanliness in the care of the genitals. This is the time to speak the firm word of warning against

handling these parts. The child who has been taught to obey in other things will obey these instructions.

The mother who has a nurse-girl should talk to her very seriously about the care of the child's genitals and about guarding him against the formation of any bad habits.

Children who have acquired this habit are generally nervous, restless, and irritable. During the act itself the child's face flushes, and this is followed by violent perspiration on the forehead and face; then drowsiness sets in; but the child does not sleep well. He has a dull face and generally an anemic appearance.

In infants cleanliness and plentiful powdering will soon cure the habit. Older children must be watched and disciplined, not with punishment, but with reasoning and firmness.

Nervousness is a condition which may become a habit. Some children are easily frightened, cry out when left in the dark, or indulge in repeated little actions like blinking the eyes, clearing the throat, shrugging the shoulders, and making spasmodic movements with the legs and arms. Such a child should be examined by a physician and, if there is real nervous trouble, treated correctly. If it is habit, the child may be given firmly to understand that he is not pleasant and not pretty when he does such things, but when he refrains from doing them he is more likable and attrac-

tive. The average child does want people to love him, does like to be admired; and this is the surest way of teaching him self-control.

Sometimes a child is nervous because his parents are nervous; or he does not have enough fresh air; or does not sleep in a quiet room; he has too much excitement; sees too many people; or is taken into crowds. Plenty of fresh air and sleep and regular habits will cure this form of nervousness.

After all, habits of eating, sleeping, bathing, the regular movements of the bowels, the control of the urine, even the control of the temper, are the result of regularity on the part of the mother. She starts her baby in life by establishing a regular routine for feeding, sleeping, bathing, clothing, and exercise in fresh air. The baby fits into this little routine complacently.

When a child is irregular in any of its habits, it is simply because the mother has not realized the importance of routine. The mother waits on the child when she has time, and neglects him when she has not. The child becomes nervous and irritable under this lack of system, and demands attention whenever he wakes up.

The child who has never known any habit except that of going to bed at six at night and waking up at six in the morning follows this course with little variation until he is old enough to learn from other children that one may sit up till all

hours if one cries for it. Up to this time he has been very comfortable in his habit of early retiring; now he demands the privilege of sitting up with his elders; and if he is allowed to do this he is started on one very bad habit, fretting and fuming until his wishes are granted.

A very good routine which will establish the baby in regular habits is this: First bottle at six o'clock in the morning, after which baby is quite content to lie in his crib, drowsy and cozy, or amusing himself with fists as his only toys. After the mother has dressed and had her breakfast in comfort she gives the baby his bath; and at nine o'clock feeds him again. Then, if the day is pleasant, she tucks him into his carriage or outdoor crib and lets him have his morning nap outdoors. This gives her time to do her morning work, and, if the baby is fed partly or wholly on the bottle, to prepare the modified milk for the day's use. At twelve comes another feeding while mother is having her luncheon. Baby sleeps again while mother dresses; and then both go out for an airing. At three comes the fourth bottle for the day, after which baby has his real recreation while lying on the bed, or on a comfortable on the floor in warm weather. Just before he has his six o'clock bottle he is made comfortable for the night; and he is not taken out of bed again until morning except to be changed and fed.

Sometimes it is almost as hard for the mother

to maintain a routine as it is for the child, but it is certainly a worth while investment of time and energy to train the child to live up to this régime.

Good looks and attractiveness in a child depend a great deal upon his way of eating. He should be taught to eat slowly from the time that his little teeth break into solid food. Carefully masticated food is an aid to digestion. When food is half chewed, or the child is permitted to bolt his food, indigestion is sure to follow, the child looks anemic or sallow, and he even has unsightly eruptions, pimples, etc., while still very young.

Fresh air is a great beautifier. When the child cannot be taken outdoors because of the severity of the weather, the ventilation in the nursery should be perfect; and at least once during the day the baby should be dressed in all his outdoor raiment and allowed to stay out of the draught in a room where the windows are wide open.

Little habits of cleanliness in the care of the nails, the teeth, and the hair not only make the child attractive to those around it, but yield big returns in comfort for the child himself.

It is good discipline to see that the child picks up his clothes as they are taken off; and his toys should be placed in the closet when he is through playing with them. When such things are made a privilege and not a penalty, when the child is taught that an orderly closet means a special pat

and kiss from mother, putting away his toys will really mean a great deal to him.

Teasing is the worst possible interference with discipline. Never allow your baby to be teased by adults or other children. Some children become highly nervous under teasing, others turn sullen and resentful.

There is wonderful power in happiness and affection. Surround your child with both. Add sympathy and intelligent understanding of his needs and development, and you will, indeed, have a better baby.

## CHAPTER XIII

### BABY'S AILMENTS AND HOW TO TREAT THEM

MOTHERS NOW STUDYING PREVENTIVE MEDICINE—REMEDIES WHICH SHOULD BE FOUND IN EVERY NURSERY—TREATMENT OF DIARRHEA AND CONSTIPATION—COLDS AND THEIR CURE—ADENOIDS AND THEIR REMOVAL—AILMENTS OF THE SKIN

THE suggestions and remedies offered in this chapter are not to be mistaken by the inexperienced mother as a substitute for the attention and prescription of the family physician in case of baby's illness. They are given because hundreds of mothers, who will read this book, live miles from a town or village. The arrival of the physician is a matter of hours, and, in the meantime, an ailment may make rapid progress.

Up-to-date doctors use comparatively little medicine in treating babies. They lay more stress on preventive medicine, and fortifying the baby so that it will throw off germs, contagion, etc. The prevention of disease in babies has been practically outlined in the preceding chapters. If

a baby is properly fed and cared for, its illnesses will be few and slight, yielding promptly to simple treatment. The healthy baby can even come in contact with a contagious disease and not take it.

The veil of mystery which has so long surrounded the practice of medicine is gradually being lifted by physicians themselves, who talk freely to mothers about the use of simple medicines, and advise them how to act in an emergency before the arrival of the family physician. This is the sort of advice contained in this chapter. It is to be followed only when a physician is not at hand, or when the case yields quickly to simple remedies. There is no reason why an intelligent mother should not know how to treat small ailments or symptoms of serious illness until the physician arrives to relieve her of the responsibility.

Certain drugs should be found in every nursery, and these are the pure, unadulterated drugs prescribed by practicing physicians; they are not patent medicines:

As cathartics, have castor-oil, calomel, milk of magnesia, citrate of magnesia.

For croup and violent attacks of indigestion, which come from overloading the stomach with rich food, especially in older children, have syrup of ipecac.

For coughing have liquid peptonoids and creo-

sote. The latter can be put up by any registered pharmacist. Many physicians recommend the combination prepared by the Arlington Chemical Company, Yonkers, New York.

Of all the remedies named castor-oil is, perhaps, the most important, as it is the safest laxative for children of all ages.

Phillips' Milk of Magnesia is recommended for very young babies; but castor-oil is the all-round dependable cathartic.

Perhaps the most common ailment in the average home is indigestion, accompanied by looseness of the bowels. This trouble has been discussed in Chapter VI, "Guarding the Baby's Diet," but it is repeated here for that mother who, in a moment of alarm, turns to the chapter on ailments for immediate help.

If the attack is not severe, with perhaps three loose passages a day, it may be corrected through the diet of the mother, or, in a bottle-fed baby, by changing the modification of the milk. The malt-sugar should be omitted; skimmed milk instead of whole or plain milk should be used, and the milk may be boiled for four or five minutes.

If the diarrhea persists in spite of this change in the food, and there is fever or evidence of pain, the food should be stopped, either breast milk or bottle milk, and boiled water, in small quantities, should be given for ten or twelve hours; then barley water for ten hours more. The

child will not suffer from hunger, because it cannot retain food of any sort.

Give castor-oil in the following doses:

Up to three months, one-half teaspoonful.
From three to six months, one teaspoonful.
From six to nine months, one and one-half teaspoonfuls.
From nine to twelve months, two teaspoonfuls.
From twelve months on, one to two tablespoonfuls.

If the child cannot retain castor-oil, then try calomel:

For the child between one and three months, one-half grain, taken at the rate of one-eighth grain in each dose, ten to fifteen minutes apart; this means four one-eighth grain tablets. The tablets should be dissolved in water.

From three to six months, three-fourths of a grain may be given.

At one year, one grain, in doses of one-tenth grain each, fifteen minutes apart.

For the infant, calomel followed by a warm enema will carry off the poison in the intestines. For an older child the calomel must be followed by half a glass of citrate of magnesia, given early in the morning, to thoroughly cleanse the intestines.

Severe vomiting is treated exactly like intestinal indigestion, by the use of cathartics. If either diarrhea or vomiting does not yield to this treatment within twenty-four hours a physician

should be summoned. Severe vomiting may be a symptom of an acute and serious attack of illness.

Following on the trail of indigestion and intestinal trouble come anemia and malnutrition. The anemic child, suffering with malnutrition, as the result of improper feeding, loses weight steadily, has vomiting and diarrhea, sleeps badly, is listless and pallid. The pallor is due to a lack of red corpuscles in the blood. It is, therefore, important that all digestive troubles should be corrected promptly before they develop into the dreaded forms of malnutrition and marasmus.

A very common ailment in the modern nursery, especially among bottle-fed babies, is constipation. This is due entirely to improper diet. It can be permanently eradicated only through a change in diet. The child may be given temporary relief through the use of suppositories and massage, never through the use of violent cathartics. To secure an immediate movement of the bowels use an injection of sweet-oil, glycerine, or soap and water. To give the sweet-oil use a bulb syringe and one tablespoonful of the sweet-oil, warm. If glycerine is used, one-half teaspoonful may be mixed with one tablespoonful of warm water. If soap and water are used, make a warm suds of pure white soap, and inject about a teacupful.

Glycerine suppositories, which can be bought at any reliable drugstore, act quickly, but they

may also irritate the rectum. The best suppositories for use in chronic constipation in infants are the gluten suppositories, made by the Health Food Company. They act more slowly than glycerine suppositories, and the mother must not look for an action of the bowels for at least two hours.

Neither injections nor suppositories should be depended upon for the permanent relief of constipation; they are makeshifts at best, and their continued use weakens the muscles of the rectum. The diet must be corrected and the causes of the trouble eradicated.

An ailment which is frequently recurrent, and is a severe drain on the baby's system, is the common every-day cold. In considering this illness, bear in mind that it is contagious. It can be prevented, first, by not allowing the child to come in contact with adults or other children who have colds, and, second, by keeping him in such fine physical condition that he can resist the infection when exposed to it. To harden the child against colds give him plenty of cool, fresh air. This means sleeping in a cool room; wearing light-weight clothing, so that he will not perspire; bathing in warm, not hot, water. The city child is apt to take cold because the nursery is heated by steam. The air is very dry; and this, in turn, dries the mucous membrane of the nose, and the

air passages, leaving them susceptible to infection.

In Chapter II, when describing a sanitary nursery, I mentioned the importance of having a pan of water on the radiator, or the register if the house is heated by furnace. All this heat should be turned off at night, so that the child may sleep in a cool room. This means that he must be warmly dressed; and his bed covers should be carefully adjusted, and should be plentiful, though light in weight. In this connection it may be mentioned that insufficient clothing and excessive clothing are equally apt to cause colds. The child whose hands and feet are cold and whose lips are blue is not sufficiently clad. The child who perspires from heavy clothing in the house will take cold when he goes out into the air. In country houses, in particular, a baby should never be carried from one warm room to another through a cold hall, unless he is carefully wrapped in a shawl.

Neither should a baby be allowed to play on the floor in a draught. He should be laid on the bed and surrounded by pillows if he is active; or some resourceful member of the family can build him a little pen raised two or three feet from the floor on legs, and covered with a pad. This should have a padded fence around it so that the baby will not roll out. Another reason why the baby may contract a cold if allowed to

play on the floor is the fact that he will find there the germs which come with dust.

And, finally, the baby's nose or mouth should never be wiped with a handkerchief used by adults or by other children. Handkerchiefs are the very best carriers of germs.

When a small baby has a cold in the head his discomfort can be relieved by dropping a little melted vaseline or albolene into the nose with a medicine dropper. Vaseline may also be rubbed on the outside of the nostrils. In an older child relief can be secured by using warm boric acid—one teaspoonful to a pint of water—with a nasal atomizer.

Generally a cathartic, like castor-oil or calomel, will help to work off a cold. It is not wise, however, to make any violent change in the baby's daily habits. He should not be loaded down with heavy clothing. Irritating flannels should not be wrapped around his chest; nor should the room be overheated, or the supply of fresh air shut off. None of these things will relieve a cold. They will make the child more uncomfortable.

If fever develops and the child does not throw off the cold a physician should be summoned.

If the throat is sore no time should be lost in sending for a physician, for the mother cannot tell the difference between tonsilitis and diphtheria. If the doctor announces the trouble diphtheria, insist on antitoxin immediately. This wonderful

remedy has passed the experimental stage: it is saving thousands of lives every year.

A sharp, dry cough, wheezing or purring in the chest, is also a dangerous symptom, and may mean bronchitis. Send for a physician at once; and, until the doctor arrives, the child should be kept in bed, the room should be warm, the temperature moist. If a considerable time must pass before the doctor will arrive it is safe to apply a mustard plaster across the bronchial tubes.

Be very careful in mixing this plaster, because the child's skin is very tender and easily burned. Mix one part of English mustard with five or six parts of flour, and sufficient warm water to make a thin paste. Have ready a piece of old muslin or linen cut square and twice as large as the chest of the child; spread the mustard paste in the center and fold up the four corners so as to close tightly; rub the baby's chest lightly with sweet-oil or melted vaseline to prevent blistering; lay the mustard plaster on the chest and cover it with a piece of flannel, which should be wound around the child like a bandage. Lift the corner of the plaster, from time to time, to make sure that it is not burning the flesh. In ten or fifteen minutes the skin will be slightly reddened, then remove the plaster; pat the skin dry with old linen; and cover the little patient carefully.

The old-fashioned remedy of equal parts of camphorated oil and spirits of turpentine may be

applied with a warm hand, and the chest carefully covered with soft flannel, or silk and wool. Great care must be taken that the chest is not bared after these remedies have been applied, for they make the little patient more prone to chill.

If the cough is troublesome, until the arrival of the doctor, give him doses of liquid peptonoids with creosote every two hours, as follows:

Dose for a child under 3 months, ½ teaspoonful.
From 3 to 6 months, 1 teaspoonful.
From 6 to 9 months, 1½ teaspoonfuls.
From 9 to 12 months, 2 teaspoonfuls.

If the attack is light it may be broken up before the doctor arrives; but it is never safe for the mother to treat symptoms of bronchitis without the advice of a physician as soon as he can be secured.

When a child shows a tendency to take cold at almost regular intervals, and the mother feels sure that this is not due to the temperature of the nursery, ill-chosen clothes or general anemia, she may well suspect adenoids. For many generations the baby who had "snuffles" and breathed with his mouth open quite generally developed an ugly case of chronic catarrh, which clung to him for life. To-day catarrh is rapidly disappearing, because it has been traced to adenoids, which can be removed.

Adenoids are a grapelike formation of tissue

which grows back of the palate in the passage leading from the nose to the throat. The air must pass through this passageway when the mouth is closed. If the passageway is filled with the adenoid growth there can be no breathing through the nose, and the mouth remains open, waking and sleeping.

Among the evils which spring from adenoids are deafness, a deformed jaw, restlessness, general debility, loss of appetite, defective speech, persistent colds, and arrested mental development. Frequently children pronounced defective in the public schools are found to be suffering with adenoids. When the adenoids are removed the child slowly but surely makes progress in his studies.

The mother who finds her baby breathing through the mouth should have his throat examined immediately. Even the small nursing baby that seems to choke and sputter when nursing may be suffering from this dangerous growth. The only cure for adenoids is their complete removal. This can be done any time after the baby passes its third month.

Next to adenoids as a menace to the baby's health come enlarged tonsils. We all know how certain children are subject to sore throats, with high temperature, followed by extreme lassitude and debility. This is tonsilitis, caused in ninety-nine cases out of a hundred by enlarged tonsils. These can be operated on without any danger to

the small patient, with little pain, and at comparatively small cost. Enlarged tonsils form a fine lodging-place for germs, especially those of diphtheria.

In considering cold of any sort, bear in mind that the baby cannot tell you where he feels pain. Irregular and unnatural breathing, coughs of all kinds, together with fever, should give the inexperienced mother reason for quick action. She should lose no time in sending for a physician. I recall, when one of my children was wheezing and coughing sharply, that I supposed it was an incipient case of croup. I undertook to treat it as I had treated cases of croup in my other children; but without results. I sent for the family physician, only to learn that my baby was in an advanced stage of capillary bronchitis. His life was saved only by prompt action and the faithful attendance of our family doctor.

Pneumonia may develop just as suddenly in a child, and it is therefore advisable to have the physician make a stethoscopic examination of the little patient.

Croup will be treated as a nursery emergency in Chapter XIV.

A baby can be made ill and fretful by skin eruptions. The most common of these is prickly heat, which looks like small red pimples and blisters. These seem to be crowded together, but, nevertheless, each remains separate. The baby

suffers from severe itching and a tingling or burning sensation.

At many contests I have heard mothers resent the fact that their babies were penalized or marked down for prickly heat.

"Why," the mother would exclaim, "all babies have prickly heat!"

All babies should not have prickly heat. It is a proof that the mother is not as careful of her baby as she should be. It is due to clothing that is too heavy, too hot, or too rough; anything that will overheat the tender skin. Remove the cause of trouble. Dress the baby lightly and loosely, and give him bicarbonate of soda baths—allowing a tablespoonful of ordinary *baking* soda, *not* washing soda, to a gallon of water. Pat the skin dry, and powder the little body freely with talcum powder and boric acid mixed—allow two teaspoonfuls of the boric acid to one ounce of powder. You can get the talcum powder in one-ounce boxes, or can have it measured by your druggist.

If the eruption does not yield to the bicarbonate of soda bath try sponging the skin with vinegar and water—that is, in the summer. The eruption may be partly due to wool in the underwear. Change it for muslin or linen shirts, and have the knitted belly-band over that, not next to the skin.

Eczema is a far more serious eruption. It is

marked by inflammation and great itching. The skin seems to thicken; it becomes moist and shows fissures from which a serum oozes and forms crusts. It is most commonly found on the face and scalp, but it may also be found in the folds of the skin at various parts of the baby's anatomy. It may spread or it may be confined to only a small area. In either case the child suffers great discomfort and is bound to be fretful and wretched.

As eczema generally springs from lack of attention to the diet and hygiene, it is not found among children cared for in an intelligent way. When it does make its appearance the mother and doctor must set themselves to the task of changing the baby's diet. In the meantime, some relief may be given by the treatment of the skin. Water baths must *not* be given, but a sweet-oil rub is used for cleansing purposes. Ointments will not cure and they give little relief. One of the best recommended by physicians is Lassar's Paste, which can be bought at any drugstore.

Eczema may be recognized but it cannot be treated successfully by the mother. She must send at once for the family physician and place the child under his care.

Chafing, which results from uncleanliness in handling the diapers, is not dangerous, but it is most irritating to the child and is responsible for much crying and fretfulness in the nursery.

This inflammation appears most frequently between the buttocks, on the thighs, and in the folds of the groin. The mother should look to the cause: neglect to change the diapers promptly; washing the diapers with strong soap or washing-powders; lack of rinsing. The cure consists of changing the diapers promptly and washing them promptly and carefully. Relief is given by dusting the affected parts with talcum powder and boric acid powder, as for prickly heat.

If any eruption does not yield promptly to change of diet or clothing, and the simple remedies suggested, send for your physician. Never take chances on skin diseases.

While attending Better Babies Contests I have been amazed at the careless way in which comparatively intelligent mothers discuss worms and their treatment with patent medicines.

Young babies, either nursing or bottle-fed, are seldom subject to worms. They more often attack older children, especially country children who drink well water. The symptoms are bad breath, gritting the teeth in the sleep, irritation of the nostrils, which makes the child pick at his nose, loss of appetite, anemia, headache, and dizziness. Many of these symptoms often come from ordinary indigestion. The only way to decide what really lies behind the symptoms is to have the stools examined. The worms themselves will

not be found in the stools, but the eggs can be detected by the aid of a microscope.

The most common form of worms is the threadworm, which looks like small broken pieces of white thread, from one-third to one-half inch long. The roundworm and tapeworm are rarely found.

No mother should attempt to treat this trouble, either before or after she has learned that the child has worms. She must never administer patent medicines, but must turn her child over to the care of a physician, who will prescribe medicine.

Rickets is one of the most serious ailments which attack the young baby. It is not an acute but a chronic disease due to malnutrition. It overtakes the baby gradually, between six months and two years, and seems to strike chiefly at the bones. The first symptoms are fretfulness, sleeplessness, pallor, and sweating of the head. The child threatened with rickets wears off the hair at the back of the head, in its restlessness, and its pillow is always wet from perspiration. Gradually the abdomen becomes enlarged and out of proportion to the child's other measurements. The teething is delayed, and the baby cannot sit up or walk as early as a normal child should. The little baby is usually constipated and suffers from general intestinal trouble. It is sub-

ject to colds, and it may have convulsions. If the condition is neglected the mother suddenly discovers that the child looks deformed. Some of the bones become enlarged; the chest is barrel-shaped; and when the baby begins to walk he is bow-legged because the bones are so soft.

If the child survives the illness it is often so deformed that it is marked for life. If the disease is discovered and treated promptly the child becomes strong and outgrows most of the defects.

Rickets is generally caused by improper feeding, by proprietary foods without the needed amount of fresh milk, or by fresh milk and foods that do not contain enough fat or cream. The prolonged use of boiled or sterilized milk, also, will cause rickets.

The cure lies with the diet, which should be changed immediately, under the direction of a physician, who will generally stop all proprietary, condensed, and boiled milk, and give whole milk, modified to suit the baby's age. After the child has passed the first year the physician will order fresh eggs, beef juice, broths, and, possibly, cod-liver oil in emulsion. The little invalid must sleep in a well-aired room and be kept out of doors whenever the weather is pleasant.

Scurvy is another disease which can be traced to the use of proprietary foods without fresh milk, sterilized, pasteurized, or boiled milk, and it generally attacks a child between the seventh

and tenth month. Among the symptoms are these:

Baby cries when handled; when the diaper is being changed; or, in severe cases, when any one touches the bed or bedding. The knee and ankle joints swell and are very tender, but they are not hot to the touch nor inflamed. The baby suffering from scurvy will generally lie on his back with the knees slightly drawn up and held far apart. If he has teeth the gums will swell and turn purple in color, or bleed easily. In some cases there is also bleeding from the nose and from the bowels. A physician should be called at once; but the real treatment is in the hands of the mother, who will give her baby fresh cow's milk properly modified, and strained orange juice or thin apple-sauce once a day.

If the child has passed his first year when attacked by scurvy, he may have potatoes, mashed very fine and beaten light with milk, and other fresh vegetables, cooked very tender and pressed through a vegetable sieve. All this treatment must be given under the direction of the family physician.

There are certain ailments which no mother should neglect or attempt to treat. One of these is swollen glands behind and under the jaw and below the ear. These may be due to the presence of infectious diseases, to decayed teeth, enlarged tonsils, malnutrition, or marasmus. They may in-

dicate tuberculosis. Sometimes the growth is gradual; sometimes they appear quite suddenly and disappear without making any great trouble. Occasionally they require incision to let out the pus. This is a simple operation, and recovery is almost always complete in a young child.

For retention of urine give the child a hot bath, raising the temperature from 100° to 105° F. If this does not have the desired effect put the child in bed and lay a compress over the region of the bladder. If the child is still unable to pass urine and there is inflammation of the parts, or a slight yellow discharge, a physician should be summoned.

Vaccination is still a mooted question among persons who argue that smallpox is now so rare that vaccination is unnecessary. This is a mistaken idea. Smallpox is rare because vaccination is commonly practiced. The healthy, normal baby should be vaccinated when he is about six months of age, and subsequently once in five years. If at any period between these dates he is exposed to the disease, he should be vaccinated immediately. Parents who object to compulsory vaccination in the schools can avoid this by having their children vaccinated at home by the family physician. If the latter is conscientious in selecting the vaccine, and the wound is kept clean until it is healed, there is absolutely no danger from infection of any kind. Occasionally one

hears of a case where vaccination has been followed by some form of poisoning. This can almost invariably be traced to carelessness in the care of the wound, not to the quality of the vaccine used.

# CHAPTER XIV

## NURSERY EMERGENCIES

CONTAGIOUS DISEASES: SYMPTOMS, TREATMENT AND QUARANTINE—CROUP AND ITS TREATMENT—CONVULSIONS—WHEN FALLS ARE DANGEROUS—BURNS AND CUTS—POISONS AND THEIR ANTIDOTES

THE modern mother is prepared to meet emergencies in the nursery far more capably than was your mother or mine. The open discussion, in the public press, of contagion and of accidents and their treatment, has educated the modern woman to cope with them. Thus women are learning how to provide against emergencies, how to protect their children from contagion, and how to guard against accident.

Most of us can look back to the day when the child was expected to "catch" a certain number of contagious diseases; it was part of normal development, like the cutting of teeth and the learning to walk; and the sooner they had them and got over them the better for all concerned. We have learned that a child can grow up without having a single contagious disease, and that men

and women live and thrive and attain a ripe old age without contracting measles, scarlet fever, whooping-cough, any more than they must necessarily have pneumonia or typhoid.

Contagious disease is not a normal feature of a child's growth. It is an emergency, and as such it is placed in this chapter. With each disease under consideration I am giving the period of quarantine prescribed by the Health Board of New York City. Every mother should respect these tables, whether she lives in a city, where quarantine is enforced, or in the country districts where it is not even recognized. None of us has the right to spread disease just because we have had it in our own household.

Immediately a mother discovers symptoms of contagious disease in her child she must quarantine the little patient, no matter what sacrifice this may entail on herself or on other members of the household. The room should be located in a remote corner of the house, provided this is one of the big, old-fashioned homes which are peculiar to the suburban or country town. In a smaller house or in an apartment it should be the most quiet room and the one farthest removed from family activities. This insures quiet for the patient, and less danger of contagion for the other members of the family. The room should be sunny and well ventilated.

For some contagious diseases it is not neces-

sary to strip the room to what may be termed hospital conditions. Doctors hold that measles and whooping-cough cannot be carried on fabrics; but the germ of scarlet fever has been known to live in hangings, rugs, and clothing for many months, even years. So, after all, as the change involves little trouble, it is just as well to take up carpets, and remove the hangings and curtains. Washable rugs may be used. The bureau should be stripped of fancy fittings to make room for the practical equipment required by the nurse. There should be no upholstered furniture, especially with scarlet fever; and the cushions used on wicker or wooden chairs should be covered with washable material.

There should be a screen to surround the bed while the room is being aired; and, above all things, the bed must be so placed that the sun will not strike in the child's eyes at any time. There should be a comfortable cot for the mother or trained nurse or member of the family assigned to the care of the invalid. No visitors or other members of the family should be admitted. Their presence cannot lessen the danger of the child, and it may endanger their lives and the lives of other people.

If possible, there should be separate dishes, and a complete outfit for rinsing out clothing in this room. If the room is small these conveniences should be placed in an adjoining room

which, like the sick room, should be barred to other members of the family. Remember that some contagions can be carried on cotton clothes. The mother's or the nurse's outer garments, aprons, towels, and bedding, all should be soaked in a solution of carbolic acid—one-half ounce to each gallon of water—before they are sent any place else to be laundered. After they have been soaked in this solution they can be washed by any one without danger of contagion. Nevertheless, it is better to have all the laundry work done separately.

The three most common contagious diseases in the nursery are whooping-cough, measles, and scarlet fever. In infancy the most dreaded disease is whooping-cough. A normal, healthy baby under six months of age can hardly survive this disease; and there is nothing more pitiful than to see the family baby, who has caught this racking ailment from older children, slowly but surely choke up as it becomes too weak even to cough. I regard it as nothing short of criminal to expose a healthy baby to whooping-cough. As many babies die of whooping-cough, in New York City, as from measles, scarlet fever and diphtheria combined. Never allow any child with a cough to come near your baby.

The cause of whooping-cough has never been discovered. In older children it consists of terrible paroxysms of coughing, marked with a sound

which can be described only by the word "whoop." The little sufferer struggles for breath, the face turns red, the food is often vomited, and the paroxysm is followed by great prostration. Young infants are not strong enough to whoop, as the doctors express it, but they cough and hold their breath in a most distressing fashion; the face becomes blue, and the baby may have convulsions.

No cure for whooping-cough has ever been found; and no mother should administer patent medicines exploited for that purpose. The family physician may prescribe sedatives which will give the little patient relief, but the disease will generally run its course of six to twelve weeks. It is no respecter of seasons, and an epidemic in a certain neighborhood will be just as bad in summer as in winter.

The patient should have plenty of fresh air day and night; and should be given regular, nourishing meals, for he will require all the strength he can command to combat the paroxysms of coughing.

The child should be quarantined as long as it coughs, and should not be permitted to mingle with other children until the family physician has given his permission.

Measles is one of the most contagious of juvenile diseases, and it is carried by clothing, toys, and animals. It appears about ten to fourteen days after exposure. The first symptom is redness and running of the eyes. The child seeks

a dark corner, claiming that the light hurts his eyes. There is a discharge from the nose; and the child appears to have a severe cold with a dry cough. He is not hungry; and his temperature may rise from 100° to 104° F. A rash appears on the face and behind the ears about the third or fourth day. It consists of groups of small, dull red, raised spots, accompanied by itching, and lasts about three or four days in the average case.

Upon the appearance of the first symptoms the baby should be given a hot bath and be put to bed in a well ventilated room. The shades must be drawn, for the eyes are extremely sensitive to the glare of sunlight. Artificial light should be carefully shaded. The eyes must be bathed three or four times a day with warm boric acid solution —one-half teaspoonful of the boric acid to one pint of water. The bottle-fed baby will need to have his milk diluted. The baby who is eating solid food should be placed on a fluid diet. The bowels must be kept open. If the temperature is very high, an ice-cap or a wet compress may be applied to the head. A doctor should be asked to look the child over; but he generally prescribes nothing more than a simple cathartic and the remedies named above. The chief danger from measles, in little babies, is the complication of pneumonia. Therefore, the child should be kept in bed at least three days after the temperature

has dropped to normal. Quarantine should last for two weeks after the temperature becomes normal.

Scarlet fever is another contagious disease which can be carried by clothing or any article that has been in contact with a patient. The child exposed to this contagion may be taken ill within a few hours after coming in contact with it, or not for a week. The symptoms of scarlet fever are more violent than in measles. There is immediate loss of appetite, with vomiting, constipation, restlessness, sleeplessness, and headache. The breathing is hurried; the temperature runs up to 103°, 104°, or 105° F.; the throat is sore and shows inflammation; there is difficulty in swallowing; the tongue is coated in the center but red at the tip and edges. The rash, which appears within twenty-four hours on the neck and chest, spreads rapidly all over the body. It starts with small red points, which may be isolated or blended into a dull red flush. It lasts from five days to a week; then the skin peels off in fine flakes, which are seen especially on the palms of the hands and the soles of the feet. This peeling, which marks the most contagious stage of the disease, may last from two to six weeks, during which time nobody must be permitted to come in contact with the patient except the nurse and the doctor. The doctor only is qualified to raise the quarantine in the case of scarlet fever.

As inflammation of the kidneys and of the ears is apt to follow scarlet fever, a physician should be in constant attendance. No mother should attempt to treat scarlet fever without the help of a doctor.

Chickenpox is a less serious contagious disease, but may make a child most uncomfortable. The rash varies greatly in size, starting with red spots, developing into pimples, small blisters, and, finally, blackish crusts. The temperature rarely goes beyond 102° F. The child suffers from loss of appetite. The little patient should be kept in bed for a few days until the rash passes. Mild cathartics should be administered. Cotton undergarments should be used instead of woolen to relieve the itching, which can also be allayed by the use of carbolated ointment. If possible, keep the child from scratching the eruption, in order to prevent scars from forming.

Last, but not least, in this list of contagious ailments, may be mentioned the mumps—a disease which affects the salivary glands. The first symptom is nausea, followed by chill, drowsiness, and high temperature; the latter varies from 100° to 103° F. The child complains of pain in the mouth and the jaw; the face looks distorted. Soon a swelling appears below and in front of one ear, pushing the lobe outward. Sometimes this swelling attacks both ears. It usually lasts about a week. The child should be kept in bed to prevent

taking cold. Mild cathartics will do no harm; and a fluid or semi-fluid diet should be supplied while there is temperature. The swelling can be covered by an ordinary cotton-batting bandage, unless the pain is very severe, when it can be soothed by hot compresses. Quarantine should be maintained for three weeks from the appearance of the swelling.

Among the nursery emergencies which are not contagious croup may be mentioned first, because it is the most common. This is the spasmodic contraction of the larynx, and may accompany a severe cold or may manifest its presence before the mother realizes that the child has taken cold. Some babies go through their nursery days without a single attack of this terrifying malady. Others are subject to it.

Usually the patient wakes suddenly, gasping for breath. The mother who has once heard the sound never fails to recognize it in its first stages. The breathing is slow, noisy, and heavy. The patient is greatly distressed. Sometimes there is a metallic, barking cough; again this may be missing.

Mothers who are experienced in handling this ailment keep on hand what is known as a croup-kettle, which can be purchased either at houses which deal in physicians' supplies or through first-class druggists or house-furnishers. When

the mother does not have this convenient utensil at hand she can use other forms of treatment.

First, take a piece of soft cloth, cotton or linen, wring it out very dry in cold water about 60° F., and fold it in six or eight thicknesses. Lay this under the chin, covering the neck from ear to ear. Cover it with a strip of very heavy waxed paper, or a piece of oiled silk, and tie it all on with a big handkerchief. Change this in half an hour, when it will be found that the folds of cloth are hot. Have ready fresh folds of cloth dipped in cold water. If the attack of croup is light this treatment will generally control it. If not, the mother or nurse must rig up a croup-kettle.

A sheet must be arranged over the crib or bed like the top of a tent. Close to the crib, so that the spout will be under the improvised tent, rig up your tea-kettle, filled with water and kept at the boiling point by an alcohol or gas stove. The stove can be set on a table beside the bed. The steam pouring out of the spout of the kettle relieves the croup. The child begins to feel easier immediately this steaming process starts. But the mother must be very careful not to have the stove near enough to set fire to the bed clothing. If she will bear in mind that croup is not a very serious ailment and that it seldom results fatally, she will be clear-headed enough to relieve her baby in a very short time.

If neither the cold compresses nor the steam-

ing process bring relief, then the mother may give syrup of ipecac—from one to two teaspoonfuls, according to the age of the child. This will cause vomiting. It is especially effective if the ordinary croup is accompanied by indigestion, as it is frequently. The next day the mother should have a doctor look the child over and decide on what treatment she shall use during another attack.

There is no emergency so terrorizing to a mother as convulsions. As the child becomes unconscious the mother, who has never seen a child pass through convulsions, believes that her baby is dying. In reality convulsions are a symptom rather than a disease, and the cause is easily traced and removed. They represent, first, an irritation of the nervous system. Back of this may lie disturbances of the digestive organs, rickets, and, in boys, tight foreskin. They occur with whooping-cough, and sometimes indicate the approach of an acute fever, such as accompanies pneumonia, scarlet fever, etc. Though it is commonly supposed that both teething and worms will cause convulsions, they can rarely be traced to such causes. If they occur during teething they are due not to the normal process of teething but to indigestion from which the child suffers, regardless of teething.

Convulsions have no preliminary symptoms and give the mother little warning. The first change

in the child's appearance is a sudden rigidity, with the hands clenched. The face turns pale; the eyes roll up or back and are fixed; and, although the child is apparently unconscious, the muscles of the face, arms, and body twitch in a way that horrifies the mother. The convulsion may pass in a few seconds or it may last several minutes. In the latter case the child breathes feebly; the lips take on a ghastly bluish tone; the forehead is moist and chill. After the convulsion passes the child is greatly exhausted; and often before it has time to react and become normal a second convulsion follows.

To prevent this the first convulsion should be treated promptly; and it is especially essential that in this emergency the mother maintain her self-control. Many a child in no real danger from a light convulsion has been seriously burned by the frightened mother's plunging it into hot water. A physician should be summoned immediately; but in the meantime the mother will act for herself.

A hot bath should be prepared, with water at a temperature of 105° F. If there is no thermometer the mother must test the water by thrusting her bared elbow into it. If she cannot bear the heat of the water she may be sure that her child will suffer if immersed in water of such high temperature. If she uses the ordinary bathtub made for infants she should add to the

warm water a tablespoonful of dry mustard, dissolved in a cup of warm water. If there is no small bathtub and she uses the family bathtub, the water should be six inches high, and the same amount of mustard should be added to it. The little patient should then be held under the water from five to ten minutes, the water being kept at the same temperature. While the mother rubs his body and limbs under the water, her assistant should dip a small towel or piece of old linen in cold water and lay it on the top of the child's head and forehead.

After the bath he should be patted, not rubbed, dry; wrapped in warm blankets; and tucked into bed, with a hot-water bottle or bag near the feet. Be very careful that the hot-water bag is not hot enough to blister the flesh. The baby, in the state of prostration which follows the convulsion, will not know enough even to withdraw his feet from the surface of the bag or bottle.

If the convulsion is a symptom of illness like scarlet fever, where the temperature is high, the baby cannot be put in a hot bath. A cold compress is laid on his head, and the body and limbs are sponged gently with cool water—not hot. If, after the sponging, the feet are cold, a hot-water bottle may be placed near them. If the child is fully dressed when the convulsion comes on, be sure to loosen the clothes, and take off the shoes and stockings. If there is an ice-cap in the house

use that in place of the cold compress for the head.

If the convulsion comes from indigestion give an enema of warm soapsuds, and as soon as the child is able to swallow give him a large dose of castor-oil.

When a baby has a fall this may or may not attain the dignity of a nursery emergency. A child can escape real injury in what may first appear to the mother as a very bad fall. The effect of a fall most to be dreaded is injury to the spine or brain. I recall one particular case where a child was dropped by its nurse and it made very little outcry; in fact, it became listless, dull, and apathetic. It dozed, off and on, for twenty-four hours; and then suddenly the mother discovered that the child had lost the use of its legs. The blow to the spine had caused paralysis.

When a child strikes the head in falling, and develops listlessness and drowsiness, or makes no outcry, does not even talk, the mother should have it examined by a physician, even though the baby may not become unconscious. There are cases on record where children of three and four years were counted as defective and idiots, when a surgical examination developed the fact that a bit of bone was pressing on the brain and making all the trouble. The fracture could be traced to a fall during infancy, to which no attention had been paid. The pressure removed, the child has

regained the use of its faculties and developed into a normal being. The mother who suspects that the brain is even slightly affected by a fall should have her baby examined immediately.

Where the arm or leg is hurt the child may stop crying and resume its playing in a short time, merely shielding the injured member. If, at the end of several hours, he continues to play without using the hand or foot affected, the mother will do well to have him looked over by a doctor. An astonishing number of children will resume playing despite a broken arm, leg, collar-bone, or rib.

One of the common emergencies of childhood is the burn. I know of nothing which will make a child cry more terrifyingly or give the mother more alarm than a burn, whether from actual flame or from steam or boiling water. Too much care cannot be taken to ward off this emergency. Hot water should not be left standing around where a child can tumble or dip into it. Lamps, candles, etc., should be placed beyond reach. Matches should never be left where a child can strike them. However, careful as the mother may be, children will burn themselves, and a mother should be prepared for the emergency.

Keep on hand gauze bandages in several widths and a bottle of sweet-oil and lime water in equal proportion. This is effective if the skin is merely reddened or inflamed. If the burn destroys the first layer of skin, causing blisters to arise, there

is danger of infection. Cover the burn with a piece of gauze soaked in a weak antiseptic solution—one teaspoonful of creoline to one quart of water.

The same antiseptic treatment may be used for the more severe burns where the flesh is actually seared. In that case, after applying the antiseptic solution and gauze, the child should immediately have the care of a physician.

Infection, lockjaw, and intense suffering, if not death, may result from a neglected burn.

When a child chokes never strike it on the back while in an upright position. Turn it over on your lap, head downward, or even let it hang by its heels, when slapping it on the back.

A cut is never too slight to require the attention of the mother. The ordinary cut should be washed at once with warm water, using absorbent cotton or old, soft, clean linen. Unless the cut is very deep and bleeds so profusely as to exhaust the child, or unless an artery is cut, cleaning it and binding it up with sterile gauze is sufficient. But when the wound comes from broken glass or wood, and the mother is not sure that she has removed all the splinters, and especially if it comes from a rusted nail, she should take the child to a doctor and have the wound sterilized. If a doctor is not at hand she should wash out the wound with hot antiseptic solution. This may be made by dissolving one corrosive sublimate tablet or one

teaspoonful of creolin to one quart of water. A piece of sterile gauze, soaked with the same solution, is then laid over the wound, and it is bandaged, and left undisturbed until the wound is healed; unless on the arrival of the physician he thinks it necessary to investigate, and treat the wound.

In case of slight hemorrhage a piece of sterile gauze should be bound tightly over the cut with the bandage. In case of a serious hemorrhage from a wound on the leg or arm, make a tourniquet of a rope or a strip of strong cloth twisted tightly around the leg or arm at a point between the wound and the body. It must be held firmly until the bleeding stops or until the physician arrives to take charge of the case.

Acute nose-bleed is not a common emergency in the nursery. It is more apt to be slight and habitual, in which case it indicates adenoids or ulcerations on the inside of the nose. These should receive treatment at the hands of a specialist. In case of acute and serious nose-bleed, which exhausts the child, try to keep him quiet in an upright position, with a piece of ice held at the back of the neck. The mother can also hold the child's nose firmly between her thumb and forefinger.

When a child thrusts some small object like a bean or a pebble into the ear or nose, the mother must be very careful not to try to remove the foreign body with her finger. In case of the nose

she may press the empty nostril firmly with her finger and induce the child to blow his nose vigorously. In most cases the foreign body will be expelled. If not, she should send for a doctor.

In the case of the ear, unless the obstruction can be easily seized with the finger-tips, it should be permitted to remain until a physician arrives with the proper instruments to remove it. In a mother's effort to dislodge it, she may push it farther against the canal or drum of the ear.

Earache is one of the most trying emergencies in the nursery. It is an exquisite form of torture. It keeps both mother and child awake. It may be accompanied by fever; and in the infant who cannot locate the pain for the mother, it is indicated by irritation, restlessness and drowsiness, loss of appetite and nausea. The child tosses the head from side to side, not restlessly but violently, according to the intensity of the pain. The tiny hands make constant but futile efforts to reach the seat of the pain. If the attack is recurrent a specialist should be consulted, as sometimes an incision of the drum is necessary to relieve the pain. This does not affect the hearing of the child if properly done.

In the meantime, heat may give some small relief. This may be applied with hot compresses, a bag containing hot salt, or even a hot-water bottle wrapped in flannel. The ear may be irrigated with hot boric acid solution in the proportion of

one teaspoonful of boric acid to a pint of water. This may be poured into a fountain syringe, which is held two feet above the child's head, the small nozzle of the syringe may then be held from one-quarter to one-half inch from the opening in the ear. It should never be pressed far enough into the ear to touch the drum. This warm water injection may be repeated every three or four hours, and where the ear discharges, either because of the incision made by the doctor or when the drum has burst of its own accord, the injection should be given three times a day as long as the discharge lasts.

The best solution of the poison emergency in the nursery is to keep poisons of every kind out of the reach of children. This includes Rough-on-Rats, corrosive sublimate tablets, carbolic acid, oxalic acid, laudanum, and strychnine.

Rough-on-Rats is full of arsenic.

Oxalic acid is kept in the house to take out stains, particularly of ink; carbolic acid and corrosive sublimate for disinfecting; laudanum for toothache.

They should all be plainly marked for the protection of adults, and should be placed absolutely beyond the reach of baby hands.

If, however, a child does swallow any of these, use the following antidotes:

*Carbolic acid:* If taken internally, give epsom

salts in large doses, soap; but no sweet-oil or castor-oil. For external burns apply alcohol.

*Oxalic acid:* Give an emetic, such as tepid mustard water, followed by a dose of chalk or whiting or vinegar. Follow this with soothing drinks, like warm milk. Never give potash or soda in any form.

*Ammonia:* Children have been known to drink ammonia with fatal results. Give vinegar or lemon juice, immediately followed by warm milk or sweet-oil.

*Rough-on-Rats* or *Paris Green:* Give an emetic of mustard water, chloride of iron, or magnesia, or baking soda, or water of ammonia. Follow this with white of egg, sweet-oil, or milk. Later give castor-oil to keep the bowels open.

*Corrosive sublimate:* Administer emetic of mustard water, followed by white of egg or milk. Castor-oil to open the bowels. Try first the emetic of mustard water. If it does not work send to the nearest druggist for permanganate of potash, diluted. Give a dose of four or five grains with strong coffee.

*Matches:* Give the emetic; and then permanganate of potash, diluted, four or five grains; following this with epsom salts or magnesia to open the bowels. Never give milk, sweet-oil, castor-oil to a child who has eaten matches.

In order to meet these various emergencies, the

mother should have the following supplies in or near the nursery:

Package of sterile gauze (5 yards).
Sterile gauze bandages—½ dozen in assorted lengths.
1 lb. absorbent cotton, in small rolls.
1 bottle corrosive sublimate tablets (7½ grains).
1 bottle of creolin.
1 bottle of sweet-oil.
1 bottle of castor-oil.
1 jar of vaseline, or lard.
Mustard flour for making an emetic.
The various antidotes mentioned in connection with poisons.

This represents a comparatively small investment, yet it is invaluable for the mother to use while waiting for the arrival of the physician.

One of the real terrors of the nursery is the realization that the baby has swallowed something more or less dangerous to his digestive organs—safety-pins, tacks, pennies, buttons, etc. Nature provides to a certain extent for carrying such things off. Food and juices form a coating around these foreign objects. Do not make the mistake of administering drastic cathartics. It is far better to give the child coarse food, such as bran, whole wheat, graham-flour bread, oatmeal, and other coarse cereals, and plenty of potatoes. Watch the stools, and if an object, like a safety-pin or a tack, does not pass within a reasonable time, take the baby to an X-Ray specialist and the foreign body will be located. This does not

always mean an operation. Very frequently, if the object is not passed off in the bowels, it is located in some part of the child's anatomy where it will do no harm.

The most careful of mothers have to face nursery emergencies in raising their children. The most important thing to remember is that coolness and courage are as useful in saving the child's life as the remedies named in this chapter. This is particularly true in cases like croup, convulsions, or poisons, when, in the excitement of the moment, the mother may scald her child, or give what she thinks is an antidote but which in reality hastens the fatal action of the poison.

Children pass successfully through many of these emergencies; the mother should never give up hope until the family physician has told her that there is nothing more to be done.

# CHAPTER XV

## DIET FOR OLDER CHILDREN

MILK FOR GROWING CHILDREN—EGGS, MEAT AND FISH —BREADSTUFFS AND CEREALS—RECIPES FOR NOURISHING DISHES

THE emphasis laid on correct diet for babies throughout this book has doubtless impressed its readers with the realization that on good digestion the health and happiness of a child are built. The vigilance which guarded the bottle feedings and the diet of the child under three years of age should become a guard against indiscretions in feeding between his third year and his adolescence. By the time the boy passes into his teens he should be thoroughly grounded in good habits of eating—the careful mastication of food, the avoidance of extremes and excesses, regularity in meals; and let us hope that he has learned the folly of eating between meals, especially sweets. He should have a normal taste for normal, wholesome food; and he should still be eating lightly before he goes to bed. Even in the big cities, where dinner is eaten at night so that

father may enjoy one good meal a day with his family, the young child should have his heaviest meal at noon, and a light supper.

From the fourth to the tenth year milk should still play a considerable part in the child's diet. It should be served once between breakfast and dinner, or dinner and supper. A glass of milk with the meal is much better than water. Tea and coffee should never be given to the growing child. He may have, all told, from one pint to one quart of milk daily; and to this may be added thin cream on his cereal and with certain simple desserts, such as baked apples.

Eggs are a dependable food for the growing child. They may be soft-boiled, poached, coddled, or shirred, the latter being eggs baked in a dish that has been lightly buttered. Children should never be given fried eggs or omelets. If eggs agree with a child—and they agree with nearly all human beings—they may be given twice a day, one for breakfast and one for supper.

The best meats for children are beefsteak, roast beef, roast lamb, broiled mutton chop, broiled chicken, roast young turkey. Shad, bass, and other delicate white fish may be given to the child between four and twelve years of age. Meats must be cut up fine, and fish must be freed from all bones before it is given to the child. Either meat or fish should be served with the noon meal.

Plate gravy, especially from beef, is nourish-

ing; but thickened gravy made from flour and grease or drippings, with milk or stock added, is too rich for the average juvenile stomach.

Ham, bacon, pork, sausage, liver, kidneys, dried and salt meat are to be avoided, and such fish as cod, halibut, and mackerel are altogether too strong for a child until he enters his teens.

White potatoes are a standby for growing children; they may be boiled, baked, or mashed; but no child should be allowed to eat fried potatoes of any sort.

The best vegetables for very young children are peas, asparagus tips, string beans, carrots, squash, spinach, and very young beets. All these vegetables must be well cooked to be easily digested. Baked sweet potatoes, which children like very much, cauliflower, onions, and turnips may be permitted at rare intervals; but, even with a child in good health, they should not be served until he is six or seven years old.

A very good combination for children is carrots and peas. The carrots are first boiled in salted water until tender; then canned or fresh peas are added; and, finally, milk which may be thickened slightly with flour and butter rubbed smooth.

Salads, which are considered so important in the diet of grown-ups, should not be given to children until they have passed the tenth year.

Well-made soup is important in the child's diet. Mutton and chicken broths should be the founda-

tion for most of these soups. After the meat has been strained out, the broth may be thickened with rice, barley, or a little cornstarch or flour. Tomato soup should not be given to very young children; but purées made of peas, spinach, celery, or asparagus, rubbed through a sieve, may be given to children seven years old or more.

In preparing cereals for children, bear in mind that the coarser cereals are the more nourishing. The ready-to-serve cereals do not give out the strength which the old-fashioned food-stuffs do. Oatmeal, cracked wheat, rice, or hominy should be cooked in a double-boiler for hours; and even those cereals which are advertised as "prepared" or partly cooked should be recooked thoroughly, and well salted, and be served with top milk, or cream and milk, or a little butter.

No child should be given hot breads of any kind, griddlecakes, shortcake, nor even newly made bread. Homemade zwieback is the best possible bread-stuff to offer children; next to that stale bread cut thin and dried in the oven until it is crisp. Cornbread, split and toasted or dried until crisp, is very desirable as a luncheon and supper dish. Oatmeal, graham, or gluten crackers are better than plain white wheat crackers.

Desserts form a very important item in the dietary of the child, because they contain starch and sugar, important to the up-building of the system. Custards, junket, rice pudding without

raisins, and an occasional dish of pure ice-cream should be the desserts up to six or seven years. These can be varied by stewed fruit, or ripe fruit in season, making sure that all the seeds and stems are removed.

No young child should be given pies or pastry of any description, rich preserves, nuts, or candy. The child who has not been given candy in his babyhood grows up with very little taste for it. Food, like fresh air and sleeping, is very much a habit.

Fruits form a considerable and important part of the diet. Up to the time a child is five years old he should have fruit juices; then solid fruit. Sweet oranges yield up the best juice; but grapefruit rubbed through a sieve, fresh pears, strawberries, and raspberries, crushed through a coarse sieve, may also be used.

Orange or prune juice can be given after seven or eight months of age. Before the second bottle in the morning two teaspoonfuls may be given, gradually increasing to one or two ounces at one year.

Apples, baked or stewed, are extremely healthful. Prunes well prepared and rubbed through a sieve, pears stewed or baked until tender, peaches and apricots pealed or stewed, are all worth places in the diet of a child. Pulp in either fresh or cooked fruits should be avoided.

Children should never be given green fruit of

any kind; and, in hot weather, if they cause a tendency to diarrhea, fresh fruits must not be permitted in the child's diet, but all sorts of stewed fruits can be substituted for them.

A word of warning about cocoa. This is an excellent beverage for a young child, but it is a mistake to think that it must be made rich with cream. A good quality of whole milk and just as much cocoa as the recipe on the box demands should be used for young children. Whipped cream on the cocoa is not necessary. If your children want ice-cream, cold drinks, treats of any sort, make these at home. Know what your children eat.

A few recipes for preparing food that children can easily digest follow:

*Albumen Water*—Divide the white of one fresh egg in several directions with a sharp steel knife; to this add one pint of cold boiled water, and a little salt. Shake well and give cold from bottle or with spoon.

*Rice Water*—Take one tablespoonful of rice; wash well; soak over night. Add one pint of water and a little salt. Boil until grains are soft—three to four hours. Add water from time to time to keep quantity to one pint. Strain through muslin.

*Baked Milk*—In a jar put two quarts of fresh milk; cover this with white paper, tied down tightly. Bake ten hours in a moderate oven.

*Egg Lemonade*—Beat the yolks of two eggs light; add the juice of two lemons, and sugar to taste. Thin slightly with water, and turn all into one cup of snow or pounded ice. Whip the whites of the eggs to a stiff froth, and beat all together as quickly as possible. Serve immediately.

*Egg-nog*—Separate one egg, and beat the yolk and white lightly. To one glass of cold milk add the yolk, one tablespoonful of sugar, and vanilla or nutmeg to taste. Lastly, add the beaten white of the egg and stir lightly.

*Beef Juice*—One pound of round steak cut thick. Broil slightly, press out juice with meat-press or lemon-squeezer; add a little salt.

*Beef Juice No.* 2—Chop finely one pound of steak; place it in a jar; pour in sufficient cold water to cover the meat; add a pinch of salt. Cover the jar and place on the ice for six hours; shake from time to time. Strain through a piece of muslin. This is very nourishing.

*Mutton or Chicken Broth*—Cover one pound of meat, free from fat, with one pint of cold water; add a little salt; let it simmer for three or four hours. Add water from time to time, and cook down to one-half pint. Strain, and remove fat

when cold. Serve hot or cold in jelly form, as desired.

*Chicken Broth No.* 2—Cut fowl in small pieces; lay in salted water for one hour; then place in cold water, bringing it slowly to a boil. Boil gently until liquor has diminished one-third. Remove chicken. Season liquor; bring to boil; and strain. Stir cup of hot milk slowly into two beaten eggs; add mixture to broth, stirring slowly.

*Clam Broth*—For this use two separate pots, one for clams and one for milk. Twelve clams to one pint of milk. Bring to a boil the clams and liquor, removing the scum; bring the milk to a boil, seasoning with pepper and butter. Strain the liquor from the clams and turn into the milk. Serve hot at once.

*Split-pea Soup*—Take one cup of split-peas; wash well; and soak in two quarts of water over night. In the morning put into kettle, with one quart of soup stock and small piece of salt pork. Allow the whole to boil slowly or simmer for about five hours. Strain; and return to fire, with small lump of butter, salt and pepper.

*Potato Soup*—Take one cup of mashed potatoes well seasoned with salt and pepper. Heat one quart of milk; thicken with flour. Stir in the

potatoes, with two tablespoonfuls of butter. Strain; and then beat in one egg. Serve hot.

*Gruels: Rice, Barley, Wheat, Oats*—If made from flour use two to four tablespoonfuls to one pint of water.

If made from the grains soak over night two tablespoonfuls, and then cook four hours. Strain, and if milk is added stir in immediately after removing the gruel from the fire.

*Farina*—Stir slowly four heaping tablespoons of farina into one pint of boiling water or milk. Boil ten or fifteen minutes; salt to taste. This can be served cold or hot, with syrup, sugar and cream or butter and sugar.

*Chicken Jellied*—Cover a small chicken with water; boil until meat comes off the bones, and the water is reduced to about a pint. Take off the meat in good-sized pieces, removing fat and bones. Skim fat from liquor; add salt and pepper to taste, together with half an ounce of gelatine. When dissolved pour over meat. Liquor can be seasoned highly, as meat absorbs much of the flavor. Place mixture in deep bowls to form, and keep cool.

*Scraped Beef*—Slightly broil a small piece of sirloin steak. With a dull knife scrape or shred this, taking the pulp only for use. A tablespoonful may be given with salt.

*Milk Toast*—Remove the crusts from the toast; slash the edges with a knife, and dip the edges in hot salted water. Make a cream of milk thickened with cornstarch; season with salt and butter. Pour over toast. Serve hot.

*Poached Eggs*—Break an egg into a cup, taking care not to break the yolk. Turn into pan of boiling, salted water, and with spoon pour water over egg, until there is a film over the top and the white is firm. Serve on buttered toast.

*Boiled Rice*—Wash the rice. Cook in double-boiler with five times its measure of cold, salted water for about one hour and a half, or until tender.

*Creamed Potatoes*—Cut freshly boiled potatoes into squares. Cover with milk, and boil up once or twice. Season with butter, salt, and pepper. Thicken with a little flour and water.

*Creamed Macaroni*—Boil in one quart of salted water twenty minutes ten or twelve sticks of macaroni broken into one-inch lengths. Strain through colander and drain. Add one tablespoon of butter and flour rubbed smooth to one and one-half cups of hot milk. When thickened season and return the macaroni to heat. Add a little grated cheese before serving.

## Desserts

*Escalloped Apples*—Butter a deep dish. Sprinkle with cinnamon, sugar, and small bits of butter, and cover with layer of peeled, sliced apples. Another layer of the cinnamon, sugar, and butter; adding a little flour sprinkled over. Continue this process until dish is full; cover, and bake one hour. Serve hot or cold.

*Apple Tapioca*—Take one-half cup pearl tapioca, three apples, pared and cored, one-fourth cup of sugar, one pint water, one-half teaspoon salt, cinnamon and grated nutmeg.

Cover tapioca with one and one-half cups warm water, and soak five or six hours. Pack apples in deep dish, filling cores with sugar, and pour over them the tapioca, water, cinnamon, and nutmeg. Bake one hour, or until apples are soft. Serve hot, with cream or hard sauce.

*Apple Snow*—One large apple, peeled and grated; sprinkle over it one cup of powdered sugar. Into this break the whites of two eggs and beat in large bowl constantly for half an hour. Heap in glass dish and pour over it a fine, smooth custard.

*Baked Custard*—Beat four eggs light and mix well with one quart of milk. Add sugar and salt

to taste, one teaspoon vanilla, and grate nutmeg on top. Bake in moderate oven until a rich brown.

*Chocolate Blanc Mange*—Heat one quart of milk in a double-boiler with one ounce of gelatine, dissolved first in cold water; add four tablespoons grated chocolate and three-fourths cup of sugar; mix all until smooth. Cook until dissolved; then boil five minutes and strain into mold, adding one teaspoon vanilla. Serve with whipped cream. Individual molds are very pleasing for children.

*Floating Island*—Heat one quart of milk in a double-boiler; stir in two tablespoons of cornstarch dissolved in a little cold milk. Add sugar and vanilla to taste, together with one whole egg and the yolks of three eggs; when the custard is thick like cream turn into dish to cool. When ready to serve beat the whites of three eggs into stiff froth and drop spoonfuls on the top of the custard.

*Bread and Butter Pudding*—Take six thin slices of buttered bread and place in a dish; pour over the bread three gills of milk and three eggs beaten together with sugar and nutmeg added to taste—a few raisins or currants may be added if desired. Bake in slow oven one hour. Serve with or without sauce.

*Prune Pudding*—One pound of prunes cooked until tender. Remove stones and pick into small pieces. Dissolve two tablespoons of gelatine and two-thirds cup of powdered sugar in one cup of cold water, and stir into prunes. Add the whites of four eggs beaten to a froth. Bake twenty minutes. Serve with cream.

*Prune Pulp*—Cook one pound of prunes slowly in a little water until they are quite soft. Strain and rub through a coarse sieve.

*Junket*—One quart of fresh hot milk, sweetened to taste, and allowed to cool slightly; add two tablespoons liquid rennet. Place on the ice in wet molds. Do not stir or strain it. Serve cold with sweetened cream.

*Whey*—One pint of fresh milk warmed, but not above 100° F. Add two teaspoons liquid rennet or essence of pepsin; stir slightly, then allow it to stand until jellied; break up the curd with a fork and strain off the whey through muslin. Place on ice.

*Bran Biscuits*—One pint of flour, one quart of bran, one teaspoon baking soda, twelve tablespoons molasses, one teaspoon salt, one pint of milk. Mix and bake in muffin rings.

*Good Luncheon Dish*—Butter a small baking dish lightly; spread over bottom of dish finely broken crackers (not cracker dust) and moisten

slightly with rich milk; break an egg carefully on this, and then cover with more broken crackers moistened with the milk, and salted. Bake a couple of minutes in oven so that the egg is about as firm as a well poached egg. This is a most nourishing dish.

The mother who guards her child's diet not only during that danger period of teething and weaning but during those years when he seems to sprout like a young human weed, demanding the very highest form of nourishment, may feel assured that she is laying the foundation for his future health and happiness. You cannot make good citizens out of dyspeptics. You cannot rear a generation of sturdy mothers from girls who drink soda-water instead of milk, who eat candy instead of custards, rich fried potatoes instead of nourishing baked ones, fancy dishes of meat, gravy, and pastry instead of wholesome beefsteak and mutton chops. It is a mistake to think because a child who is growing will eat almost anything, that almost anything will nourish a growing body.

Better babies mean better children in the public schools; but neglect in the matter of diet will soon turn those better children into sickly citizens.

The vigilance of the mother in the matters of diet, hours of sleep, bathing, and fresh air should

not relax until after her children have passed successfully through the period of adolescence and have been launched into strong, sturdy men and women, with their habits so firmly fixed that the maternal influence in food as in morals goes out into the world with them.