

THE NURSING
OF CHILDREN

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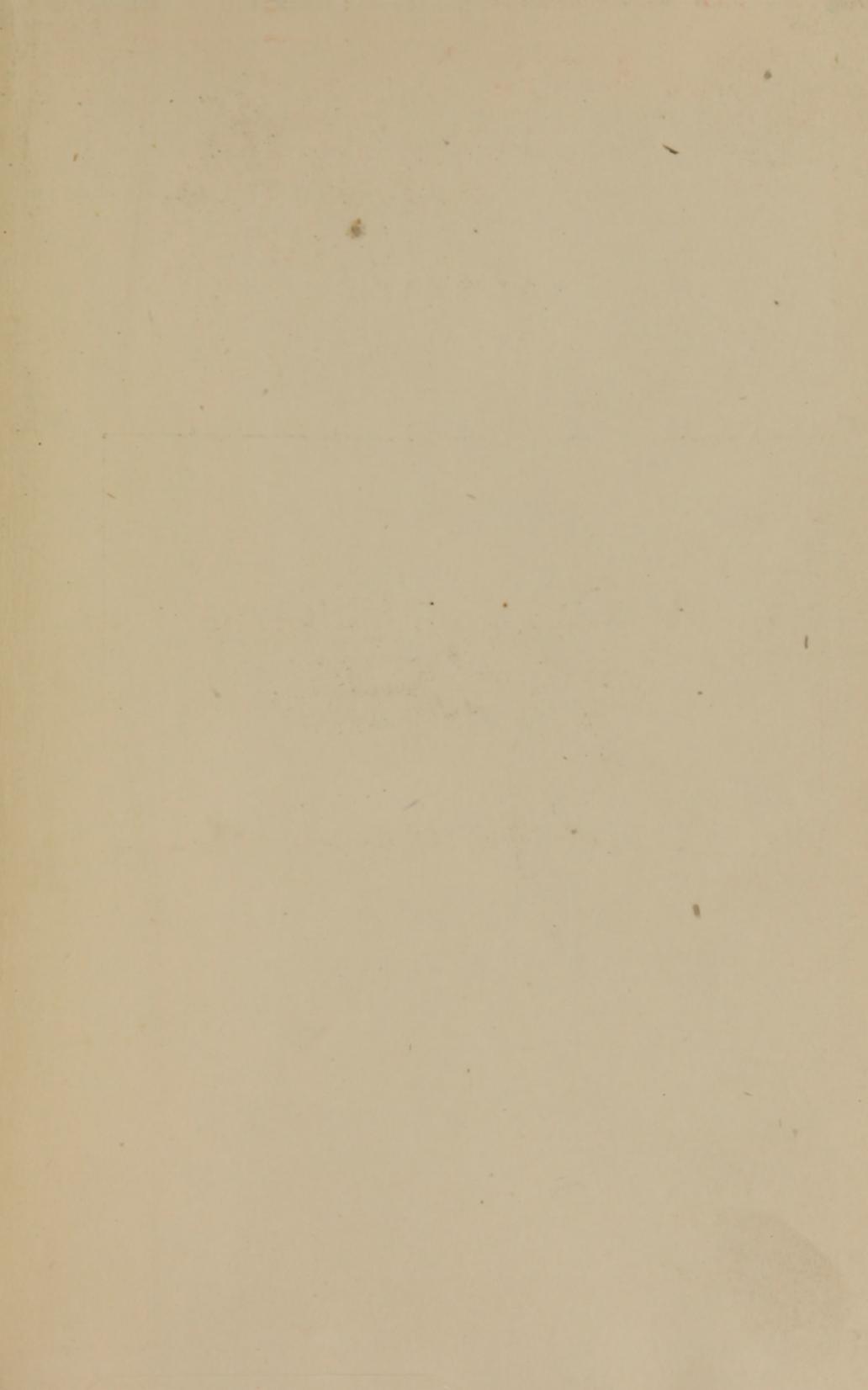
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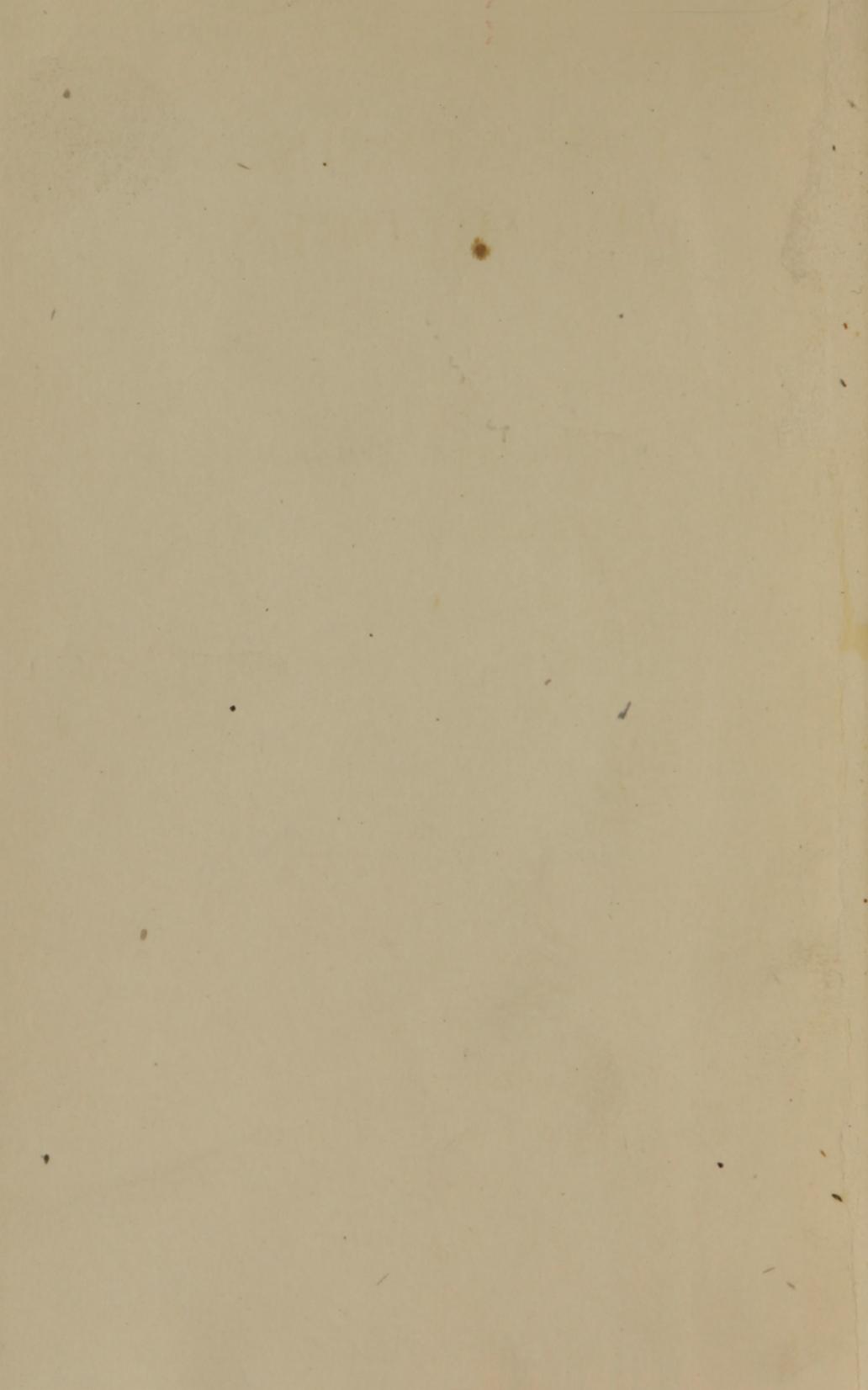
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THE NURSING OF CHILDREN

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and
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INTRODUCTION

THIS little volume, dealing with the nursing of infants and sick children, compiled from a series of articles which originally appeared in *THE TRAINED NURSE AND HOSPITAL REVIEW*, should have a hearty welcome in training schools and by nurses whose experience in the care of sick children has had to be gained after graduation.

Of books dealing with *diseases* of children there has been no lack, but our literature on the subject of the actual care of the child who has the disease has been scanty, indeed.

In the preparation of these chapters Miss Goodnow's experience as nurse, superintendent, teacher and careful student of methods, has been supplemented by Miss Pasley's first-hand knowledge of present-day methods in the actual care and management of sick children.

In a book of this size, all matter has necessarily had to be condensed—a condition which should prove an advantage rather than otherwise to the busy nurse. The book has been written by nurses, for nurses,

and for those in the home who are forced by necessity to assume charge of the bedside care of a sick child or an infant. It does not assume to be a treatise on the diseases of children.

We prophesy for the little volume a wide circulation, and trust that it may prove of practical help and value, at some time, to all who may turn to its pages for suggestion.

CHARLOTTE A. AIKENS.

PART I

Preparation for the Baby

THE nurse who desires to be efficient in her work for children begins her usefulness by helping the prospective mother. She should advise when pregnancy is suspected that the patient visit her physician early, have the fact of pregnancy established or disproven, and keep in touch with him, so that he may direct her physical care during the period.

If the nurse is asked for advice by a pregnant woman she should counsel simple, sensible living, leaving the details to the doctor. She will be called upon, however, to deal with many minor points, as a woman always feels that another woman understands better than a man possibly can and is more sympathetic in this wonderful matter of the entrance of a new life into the world. She will have to answer questions in regard to the traditions which are still current, and should herself know the truth concerning them. The various modes of telling whether the child is to be a boy or a

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girl are interesting, but all fail more or less frequently, and are not to be taken seriously. The most difficult subject is that of prenatal influence and maternal impressions, with the consideration of birthmarks and deformities. The authorities differ in regard to these matters, and among the medical fraternity one will find equally capable men holding opposite views; but most of the biologists feel that the whole subject and its so-called proofs are merely the result of coincidence. It is a fact that the majority of pregnant women go through experiences which ought, if the traditions held good, to produce marks, deformities, strange tendencies, etc., and yet these things do not occur except in occasional instances. If such matters were cause and effect, the effect would not be lacking in nine cases out of ten. It is, however, a matter of common sense and fair play that a prospective mother should be protected from unpleasant occurrences, given cheerful surroundings, and helped in maintaining a calm mental state.

In the matter of premature children one constantly hears that eight-months babies do not live, while seven-months do. Such

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statements not only contradict common sense, but are disproved by facts. The idea doubtless arose from inexact observation and ignorance of the exact amount of prematurity.

When tales of terrible suffering at the time of delivery, blood poisoning, abscessed breasts, etc. are brought to a nurse, she may say simply that modern scientific treatment has practically eradicated nearly all of the old-time complications. She may even use these things as arguments in favor of having skilled care.

Clothing—The nurse is almost always called upon to advise in regard to clothing for the baby, and should know something of the quality and durability of materials. Shopping for the layette should begin about the third month of pregnancy, and any machine stitching should be finished before the sixth month. Embroidery and fine hand work may be reserved for the later months. After the sixth month there should always be a moderate supply of things ready in case of premature birth.

Advise the buying of good flannels, as these, if properly made and cared for, may

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be used for a long time. All-wool flannel does not launder well; silk-and-wool or linen-and-wool is better. A good quality of either may be obtained for about ninety cents a yard. If the petticoats are made quite full (one or one-and-a-quarter yards at the bottom) they can be used until the child is three or four years old. A cheaper flannel (forty cents a yard) may be used for pinning blankets, as these are used but a comparatively short time. For the bands, buy a half yard of forty-cent flannel, leaving it uncut, so that it may be torn into strips of the proper width at the time it is used. Bands should not be hemmed or embroidered, and if made beforehand are apt to be too large or too small. They may be made with darts, but these are easily stitched in. The band should never be pinned on, but sewed or basted. It should be loose enough to admit the nurse's finger as she sews, but snug enough to stay in place.

The shirts which have a double front are undoubtedly best, as they afford more protection where it is needed. They should be fastened by a few stitches or with the tiniest of safety pins. (Imagine yourself with a

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four-inch blanket pin in the middle of your back and you will have some idea of the reason for omitting pins altogether.) Use the second size of shirts, as the smaller ones shrink or are outgrown very quickly. These may be silk-and-wool or linen-and-wool, and in warm weather cotton or linen mesh.

The best material for dresses is nainsook, for which one pays 20 or 25 cents a yard. Lawn rumples badly and does not wear or launder well; other materials are too heavy. If the slips are made with draw-strings at the neck and wrists and armholes amply large, they will not require making over as the child grows. Nightgowns are best of flannelette, except for summer, when nainsook or longcloth may be used. If they are made of wool flannel, the neck should have a silk or linen binding. The petticoats should be made princess or with a waist, so that they hang from the shoulders. An attempt to fasten clothing about a baby's waist or chest results in its dragging and being always uncomfortable and untidy. None of the clothing should be longer than 24 inches from shoulder to bottom of hem. The regulation 27 inches makes simply

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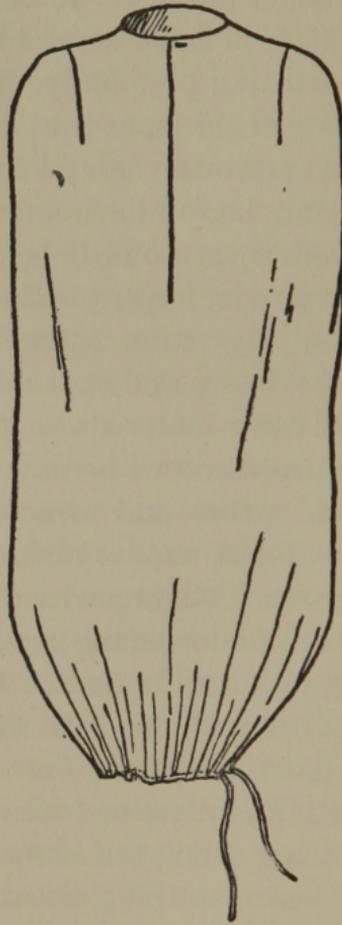


FIGURE I

more material to pull and drag and does not aid in keeping the baby warm.

Cotton advises instead of the usual slip,

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a sleeveless garment to be made of Scotch flannel. The neck is finished smoothly and the bottom has a draw-string by which it is drawn up like a bag, keeping the feet warm and making a garment which will stay in place. The arms are of course included in the bag thus keeping the hands away from the face and preventing scratching or infection of eyes. He suggests that a similar slip be worn underneath in cold weather, this one being provided with armholes. A silk-and-wool shirt, diaper and stockings complete the costume. This is advised for only the first six weeks. It is particularly good for very small or premature babies.

Soft wool stockings or long bootees should be provided except in summer. They must be pinned to the diaper with tiny safety pins or they will not stay in place. Short jackets are useful to keep the neck and shoulders from chilling when they get uncovered. These may be made of wool, flannelette, or silk.

The diapers may be made of a thin outing-flannel. This is soft, absorbent and easy to launder. Canton flannel is clumsy and is not absorbent nor soft until pretty well

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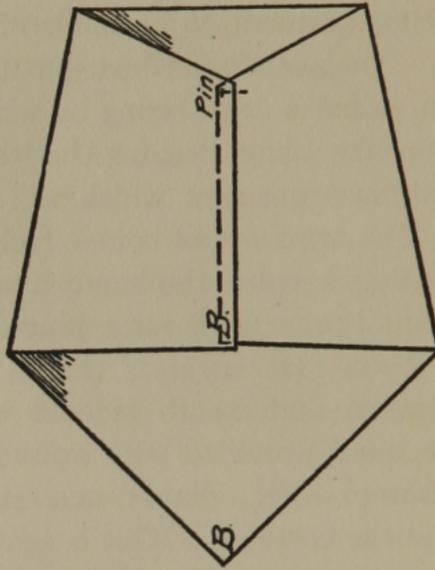


FIGURE II

worn. Linen is almost too absorbent and soon becomes cold and clammy if wet. Birdseye-cotton is excellent, but is almost sure to become gray after a few weeks laundering. The Arnold knit diapers are very satisfactory, but are expensive.

The following list of clothing will be found to fit the requirements in most cases:

Three shirts, second size; 4 pairs stockings; 4 flannel petticoats, 4 wool pinning blankets; material for 3 or 4 flannel bands; 10 or 12 dresses or slips; 3 jackets; 50

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diapers, 22 or 24 inches square; 2 or 3 head shawls; 2 soft blankets or small comfortables, washable.

The head shawls should be of very fine soft wool or silk, as no harsh material should ever come against the baby's face. A coat and a bonnet may be provided later, when the child begins to go out, but are not necessary at the first.

A special hot water bag should be provided, and scales for the daily weighing. The baby basket should contain the following articles:

Two soft towels (old table linen is nice for these); soft old linen or gauze for washcloths; castile soap, (the genuine); bath thermometer; large and small safety pins; boric acid in powder; boric acid in solution; white vaseline, sterilized; package absorbent cotton, sterilized; package sterile gauze; pair of scissors; plain talcum powder; soft old blanket; full set of clothing for first dressing.

Bed—Some sort of a bed or bassinet should be ready for the reception of the baby. The material and style of this may be left to the taste and purse of the mother. A clothes basket may be used, padded and

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lined with pink, blue or white, with a deep ruffle of the same covering the outside. One may even use a baby carriage as a bed if it is flat in the bottom. The simplest and most practical thing is a small metal bed; with a hair mattress it will be both comfortable and sanitary. If an ordinary crib be used it will do until the child is six or seven years old. There should be a quilted pad over the mattress and it should be further protected by rubber or waterproof sheeting, preferably double coated. Cambric sheets, light wool blankets and if desired, a light spread make the bed complete. No pillow is needed for some months, though a thin one may be used later on.

The Nurse—It ought to be an axiom that no nurse should take an obstetric case, except in an emergency, and thus undertake the care of a young baby, unless she has had good training for this work. Good training means, in most instances, special training, for few general hospitals give more of this work than a mere smattering. The nurse is expected to be a teacher of principles and methods. She must be equipped with both popular and technical knowledge. She

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must know what things are so and why they are so.

Books—It is well to be able to recommend books from which the young mother may gain information. Holt's "Care and Feeding of Children" is perhaps the most complete work for popular use and is considered an authority. Fischer's "The Care of the Baby," Wheeler's "The Baby—His Care and Training," Cotton's "Home Economics" series and Griffith's "Care of the Baby" are among the best. There are some excellent chapters on the subject in Aiken's "Home Nursing." These are all reliable works and are written for the average intelligent mother. Schinn's "Biography of a Baby" is a scientific study of a child's development, and is told in an interesting manner.

The importance to both mother and child of proper care for the baby during the first few days cannot be overestimated. It is these few days which set the pace for months to come, and it is during them often that a nurse makes or unmakes her reputation.

Discrimination—Few people, even doc-

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tors and nurses, understand that children are born with dispositions, and that these dispositions must be dealt with in one way or another from the hour of birth. The nurse who takes advantage of her opportunities will observe that one child is impatient and wilful and another serene and yielding from the first day of life. It is just as impossible to succeed if one treats all babies alike as it is if one treats all men and women alike. Adaptability nowhere finds a wider application than in the care of young babies.

The Baby's Characteristics—What is the baby at birth? Most physicians denominate him "simply a little animal." The sight is somewhat undeveloped, in that distance is not distinguished at all and only nearby objects are clearly seen. The color sense is non-existent. Taste is not developed, but the baby's mouth is very sensitive to heat and cold or to pungent foods. The sense of smell appears gradually, along with that of taste. The sense of touch is well developed chiefly in tongue, lips and eyes. It is undoubtedly true that "a baby's only *conscious* sensation is in its mouth." The

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sensory nerve endings in the skin are little developed, which results in this, that a baby may be badly injured without being itself conscious of it enough to protest. To this are due some of the accidents with hot water bottles, etc. The lungs inhale relatively more oxygen and expel more carbon dioxide than in adults. The sweat glands are not active at birth. Tears do not appear normally until about the third month.

The respiration at birth is about 45 per minute. Rotch says "The breathing is superficial, sometimes quick and again dying away so as to be almost imperceptible." Good authorities say that the temperature of a new-born baby is from 99 to 100° but it falls two or three degrees within the first hour and fluctuates for several days, being at the end of the first week normally 99°. In actual practice, the average baby tends to record a subnormal temperature for some weeks, and it will rarely be as high as 99 unless there is some functional disturbance. The average height of males at birth is $19\frac{3}{4}$ inches, of females $19\frac{1}{4}$ inches. The average weight of males is $7\frac{3}{4}$ pounds, and that of females $7\frac{1}{4}$ pounds. The ten,

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twelve and fifteen pound babies of which one hears are exaggerations or guesses, or due to the child being weighed with a considerable amount of clothing. Babies which weigh ten pounds at birth without clothing are very uncommon and a child larger than that is almost never seen.

PART II

Early Care

CARE at Delivery—When a child is delivered, the physician is usually there to direct the immediate care.

Most doctors expect the nurse to wash out the child's eyes and mouth. This should be done carefully with warm boric solution. Most doctors prefer to tie the cord themselves; if a nurse is asked to do it, she must see that her hands are sterile. If the child is not breathing properly, the physician will be responsible for the treatment which may be needed, but every nurse should know how to do artificial respiration in order to be of proper assistance and to be prepared to act in case of trouble after the doctor's departure. The nurse should familiarize herself with the different methods of encouraging breathing, and should understand thoroughly the principles involved. This is best learned by actual demonstration, and should precede the regular obstetrical training.

The cord cut, eyes and mouth cleansed

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and respiration established, the child is given over to the nurse, and thenceforth the average physician pays very little attention to it.

No nurse who has had proper obstetrical training will desire to be left alone at the delivery. If circumstances delay the arrival of the physician and it seems likely that she will have to get on without him, she should sterilize a pair of scissors and two hemostatic forceps (if she has them), or two or three 12-inch lengths of bobbin tape. She should prepare her solutions and get everything within reach. In scrubbing her hands the usual precautions should be taken about thoroughness. Full-strength alcohol or peroxide of hydrogen are rapid and sure disinfectants after the scrubbing.

The actual expulsion of the head should be retarded as much as may be, to prevent laceration. When the chin is delivered, the nurse may feel with one finger to ascertain whether or not the cord is around the baby's neck; if so, it is to be gently slipped off. The shoulders should be delivered carefully. When the cord has ceased pulsating, a clamp may be put upon it, about an inch from the

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child's navel, the other a greater or less distance from it, toward the placental side. The cord may then be tied, or the clamp left on till a convenient time comes.

The baby, upon delivery, should be received into a warm, sterile towel held in the nurse's hands, and should be laid upon its right side (to insure closing of the *foramen ovale*), wrapped in a warm blanket, the towel being left to protect the face and eyes from the roughness of the blanket, and the cord from the possibility of infection. The baby may be laid in bed or basket or in a rocker or arm chair which is well padded. In cold weather, it is wise to cover it with a second blanket, and place a hot-water bag in the folds, being careful to avoid possibility of burning.

If the child is in good condition, it may be left while the nurse assists in the care of the mother. An occasional look at it in passing is sufficient to assure oneself and the family of its well-being. If the physician wishes the Crede treatment applied to the eyes, he will attend to it before he leaves. This consists of one or two drops of a 2 per cent. solution of silver nitrate put into each eye.

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The nurse should see that a clean dropper is ready for the silver solution and another for the sterile water or salt solution, which is usually used after the application. She must provide the salt solution and a sterile glass in which to pour it.

Bear in mind that as soon as the mother is clean and comfortable she will want to see her child. Even though it may not be attractive in its first wrappings, her desire should be granted. After she has really seen the baby, she will be content to have it taken out of the room while she gets some rest.

A new-born baby, if kept well wrapped and carefully watched, may with perfect propriety be left for some time without further attention. The mother, even if asleep, needs strict watching for some hours after delivery, and is less likely to get it if the nurse is absorbed with the baby. Moreover, when one thinks of the radical changes which take place at birth, the establishment of breathing, the change in the blood current, the shock of contact with the outer air and the various hard and soft substances, the lights, movements, sounds, etc., the

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nervous strain of handling to which the little being is entirely unaccustomed, one finds much to condemn in the customary haste in getting at the bathing and dressing. Give the baby a chance to adjust itself partially at least to the strangeness of the world, before you add many new sensations.

The Nursery—If it is at all possible, every family should arrange for a nursery, however small. It should be a sunny room, but the crib should be set so as to screen the light from the baby's eyes. There should be no carpet, but soft, washable rugs should be provided. The floor is best of hardwood, finished with oil or varnish rather than wax, as it must not be slippery; a highly polished floor is not safe for a nurse with a baby in her arms and certainly not for little feet when they are taking their first steps. There should be no upholstered furniture, no draperies except washable curtains, and no ornaments except pictures which are interesting to children. Provide for the baby's wardrobe a roomy box (such as a shirtwaist box) or a chiffonier. Let cleanliness, simplicity, order and quietness be especially sought for the nursery. Good ventilation

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should be provided, and this means making a study of that particular room in order to avoid drafts and give an abundance of fresh air. The temperature of the room for the first few days should be nearly 78° , and for a few weeks when the baby is bathed it should be kept very warm, but may gradually be cooled until by the time the baby is a month old it is not more than 70° .

Bathing—As soon as possible after delivery, the child should be well anointed with sterile olive oil or white vaseline, especially in the folds of the groins and about the neck and head. Within a half hour after this application, it will be found that the cheesy material (vernix caseosa) which was present has disappeared. Gentle sponging with not too strong soapsuds at a temperature of 100° to 105° will remove the oil and any foreign matter which may be present. A tub bath is, as a rule, objectionable, because of the danger of infecting the cord; but one may appropriately be given if for any reason the child is blue or chilled.

In giving the bath do not assume the awkward and inconvenient position of sitting in a low rocker with the tub on the floor and

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the child in your lap. Use a table. In private practice the kitchen or dining-room table is usually the best, and with a folded blanket over it makes a good arrangement. In hospitals an ordinary pine table may be padded and covered with oil cloth. In cold weather it is best to place a hot water bag, not too full nor too hot, between the folds of the blanket upon which the baby is laid.

For a sponge bath have the water at a temperature of 105° , as it cools very rapidly. For a tub bath, make it 100° ; by the time the baby is undressed and ready it will have cooled to about blood heat. The temperature should be reduced after a week or two, and the child gradually accustomed to cool water. The softest of wash cloths and towels should be used and the utmost care exercised in drying. If properly absorbent materials are used there is no excuse for rubbing, as the drying can be done by gentle patting. Powder is unnecessary, but may be used sparingly if it does not irritate the skin. Always note carefully what effect powder has, as it may be responsible for things otherwise unaccountable.

When a tub bath is to be given, the baby

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should be wrapped in a diaper or soft towel and lowered slowly into the water. If the water is not exactly the right temperature (blood heat) or the child is thrust into it carelessly or suddenly, a permanent dislike or even fear of baths may result. Special attention should be given to the groins, the folds about the neck and under the arms. The head should be washed at each bath; when this is neglected an eczema sometimes results. If a brown, crusted condition appears on the scalp, several thorough oilings and subsequent bathing will remove it.

The eyes should be sponged off daily with warm boric acid solution. They should not be washed out unless the physician orders it. Any discharge should be at once reported.

The daily bath is not now considered essential. Some doctors prefer not to bathe the child at all until it is ten days or two weeks old, except so much as is needed for cleanliness. For very small or weak children bathing is always contra-indicated, and oil rubs should be given instead. Use for this purpose albolene, cocoanut oil or benzoinated lard, as olive oil, even if pure, is not readily absorbed. Employ a gentle knead-

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ing movement for the arms and legs and a circular stroke for chest, abdomen and back.

Even if the bath be omitted, there should be an entire change of clothing twice a day. It is not always necessary to send the garments to the wash, but they should be well aired before being used again. The change of clothing at bedtime is quite as important as in the morning. A baby is no more likely to be comfortable sleeping in its day garments than an older child is. Attention to this small point may save many a sleepless night for both mother and nurse.

Treatment of the Cord—Unless you are familiar with his practice, always ask the physician how he wishes the cord dressed. As a matter of fact, one method appears to be as good as another, providing the materials used are sterile. Dry cotton and powdered boric acid are commonly employed; talcum powder, salicylic acid, bismuth, zinc oxide ointment, etc., are used. If the cord is a little “juicy” or there is any redness about it, pure alcohol will almost invariably check it. After the first dressing, a thorough letting alone is the best treatment. A daily inspection and change of dressing if it

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becomes soiled are all that is usually necessary.

It is customary in putting on the band to turn the cord to the left, in order to avoid its pressing upon the liver, but no harm is done if this tradition is not observed.

The Excretions—The child's bowels should move thoroughly during the first twenty-four hours of life. If they do not of their own accord, an enema should be given. This may be done with a small soft rubber catheter, connected to a funnel, or with an infant's bulb syringe. The syringe is more easily managed, but great care must be exercised in inserting the tip. Plain warm water may be used, or a very weak soap suds if it seems to be needed. The ancient and honorable formula of molasses and water is not objectionable, but is unnecessary.

The first urine voided is usually scanty and high-colored. It may contain a red sediment which can easily be mistaken for blood. The time, quantity and frequency of urination should be made a note of. A child may fail to urinate for the first twenty-four hours without anything being wrong. Sometimes the quantity is very small and is

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almost colorless, so that it might be overlooked. If the child has not voided after twenty-four hours, a warm normal salt solution enema may be used effectively. Water given freely by mouth and moist heat applied over the abdomen and genitals help greatly in the matter. If a child goes over thirty-six hours without urinating, the physician should be called upon to take the matter in hand.

Water—Beginning the first day of life, water should be given regularly. Half an ounce, or even an ounce, every four hours, is not too much. Do not give it from a bottle till after the habit of nursing is established, or the baby may refuse to nurse. Use a spoon in the beginning, but be sure that the baby takes the water and that it is not distributed over its face and clothing in place of being put into its stomach. Feeding a baby water from a spoon takes considerable time, but pays in the end. In ordinary cases it is better not to give water at all until after the baby has once nursed well.

Nursing—The first nursing should take place as soon as the mother is rested and the child washed and dressed. If the mother

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has any tendency to hemorrhage, the baby should be put to the breast much sooner, as the stimulation of the nipple tends to produce uterine contractions and so stop bleeding. If mother and baby are in good condition some physicians prefer to wait twelve hours. Three or four times during the first twenty-four hours and about five times the second and third day is sufficiently often. There is very little fluid in the mother's breasts during this period, but the first secretion (called *colostrum*) is laxative and needed by the baby. It is also important that the nursing habit be established.

The mother or some solicitous relative may suggest feeding the baby before the milk appears. One should insist in such a case upon following Nature's suggestions, which very plainly say "No" to this procedure. The baby is rarely hungry and cannot be induced to nurse often, since the little body contains stored-up sustenance enough to last for a few days; moreover, the very absence of milk in the mother's breasts is in itself a hint that it is not needed.

Remember that a primipara rarely knows how to properly nurse her baby, and that it

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is the nurse's duty to teach her. Have her lie well over on her side, so that breast will come squarely in front of the baby's mouth. The baby's head may be supported by her arm or a thin pillow, but it is quite as satisfactory to omit either and lay the baby flat upon the bed. The mother should be shown how to support the breast with her hand, holding the nipple so that the baby may be able to get and retain its hold. Much of the difficulty about getting a baby to nurse is due to its being placed in an awkward position so that the child starts out by being discouraged. These matters seem small, but they lie at the root of success. If the milk seems not to flow freely, gentle massage of the breast or warm applications may assist. If it flows too freely the mother may with her first and second fingers near the nipple retard it.

The duration of each nursing varies according to the flow of milk and the vigor with which the baby nurses, being from ten to twenty minutes. The nurse must study the individual baby and adapt her procedure to it. If the child refuses to waken or seems not to be hungry, it may be allowed to sleep,

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and the mother may be assured that when it is really hungry it will nurse properly. The baby's sleepiness should not be made an excuse for omitting an attempt at nursing when it is time, as irregular habits are quickly formed which are annoying to the mother and bad for the child. The nursing schedule should be as follows: Beginning early in the morning, whenever the child awakens, say at five or six o'clock, a persistent attempt should be made at nursing every two hours up to bedtime, say nine o'clock. Every four hours during the night is often enough, and a healthy baby which is doing well should not be wakened even as often as this. It may be allowed to sleep all night if it will. This routine will make nursings come at 5, 7, 9 and 11 A.M., and at 1, 3, 5, 7 and 9 P.M.. with a night nursing about one o'clock. In this way the mother is not disturbed and robbed of her rest and the baby is taught to sleep at night. It takes very few weeks of good training to produce good results in this matter, and very few weeks of carelessness to produce bad results.

Care of the Baby's Mouth—The baby's mouth should be washed thoroughly but

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gently before each nursing. In theory, it should also be done after nursing, but in practice it does not seem quite rational to waken a baby who has just dropped off to sleep. The point is to see that the mouth is kept clean, and it is easier and surer if a definite routine is established. Use a bit of absorbent cotton twisted about a toothpick, being sure that the point is well covered. The nurse's finger, no matter how gently used, may bruise the tender membrane of the mouth.

The mother's nipples should be washed both before and after nursing, the washing afterward being the most important. Any excessive tenderness or the least suspicion of a crack should be at once reported to the physician.

In cases of flat or retracted nipples a breast pump may be used to draw them out, or a shield employed to enable the baby to take hold of them. These appliances may usually be dispensed with if the baby be properly awake, properly placed and skilfully handled. Very bad cases of retracted nipples may be successfully overcome by a good-tempered, wideawake baby.

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Crying—The child's crying during the first few days is one of the most difficult matters with which the nurse has to deal. She must explain as best she can the reasons for it, and endeavor to quiet the mother's anxiety in regard to it. It is well to observe that the mother frequently worries less over crying if the baby is in her room and she can see what is being done. At night it is better that she be not disturbed and that the baby be cared for in another part of the house. In hospital practice babies are best kept at some distance from the mothers' rooms or wards, but the mothers should be told that they may see them whenever they wish. A mother frequently wishes her baby kept near her, because she fancies it will not be brought when she requests it or that it may be neglected. Tact and the arousing of confidence are needed on the nurse's part to overcome this. Very few mothers object to their babies being kept in a nursery if the matter is properly presented.

Crying may be from hunger. If there is apparently no milk in the mother's breasts and the child appears unsatisfied after an attempt at nursing, one may try giving

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water, on the ground that relieving thirst and warming and filling the stomach may prove comforting. If one is convinced that the child is really hungry, the physician may be notified and food given under his advice. The nurse should take no responsibility in the matter of artificial feeding at any time.

Crying may be due, even in the first few days, to colic. This may be relieved by copious draughts of warm water and by laying the baby almost on its face over a hot water bag. If these expedients fail, an enema of warm water will usually be effective. In a few cases crying may come from simple lonesomeness. Try turning the baby slightly, gently patting it, or even talking to it. It should not be taken up nor held.

PART III

General Care of a Young Baby

TEMPERATURE—As long as a nurse has the care of a baby she should take its temperature twice a day simply as a precaution. In the morning just before the bath and at bedtime in the evening are convenient hours. Use the rectal thermometer with a large bulb rather than the ordinary sharp-pointed one. Put oil or vaseline upon it, insert gently and hold carefully in place till it has registered.

Take pains to teach the mother how to take temperature and explain to her its significance. Warn her against over-anxiety, teaching her that high temperature in a child means far less than in a grown person.

Weight—The baby should be weighed regularly, even after it is thriving well. During the first month of life it should be weighed daily; after that once a week is sufficient. The weight should be observed without the clothing, simply because it is more accurate. If a towel is used inside the

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scale, it should be allowed for. An ordinary grocer's scale will be found more accurate than the rather expensive ones usually sold for weighing babies.

A weight chart should be kept for each baby. This is much like a temperature chart and gives a graphic picture of this all-important matter.

Many nurses have no clear idea of the causes and meaning of the child's initial loss of weight. It is due to evaporation, to elimination, and to lack of food. It usually amounts to nearly a pound, but may be as little as half a pound or may run to one pound and a quarter. The amount lost is of less importance than the time over which it extends. The child should cease losing by the fourth or fifth day and should begin to gain by the end of a week. There may be no gain for several days without its being at all a serious matter, but if loss continues beyond the sixth day it is reason for anxiety. So, later, a child may not gain for several weeks without anything being radically wrong, but if he loses the matter should be taken vigorously in hand.

Lifting and Handling—It ought not be

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necessary to say that a baby should be handled carefully. Care means skill more than actual gentleness. A baby will be less injured by what seems like rough handling than by some well-meant but stupid mode of lifting. For example, there is nothing really wrong about picking up a child by its feet, but it is almost criminal to lift it by its arms. (Fancy how you yourself would like to be lifted from bed in this fashion.)

To lift a baby properly, the head and back of the neck should be supported by one hand, while the other grasps the clothing at the feet or just below. When a child is lifted without its clothing, it should be grasped by the ankles, a finger being placed between them to avoid pinching.

In dressing, do not lift the baby, but roll it, exactly as you would a grown person. All garments should be put on over the feet, never over the head; the latter method is injurious to both eyes and temper. When one garment can be slipped inside another and the two put on at one time, it should be done.

Carrying—The correct and comfortable way to carry a baby is not the usual cramped

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PROPER WAY TO HOLD BABY

position in the arms, but it should be carried over the hip, face downwards, with the nurse's arm under its abdomen. This gives absolute freedom of movement and is easier

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for both child and nurse. It has the advantage of leaving one of the nurse's hands free for the opening of doors, etc. The method is rather startling to the laity, but is the one taught in the best hospitals. It is equally convenient for carrying older children.

Excretions—The nurse should familiarize herself with the character, amount and frequency of the baby's normal excretions and should teach the mother to recognize anything wrong.

The urine should be practically colorless and odorless and the quantity considerable. If it be colored or scanty, give large amounts of water to drink, and the matter will right itself.

The bowel movements should be bright yellow or orange in color, a soft, unformed mass. Tiny white curds are not abnormal, but if they are large and hard they should be shown to the physician. A formed or pasty stool, one pale in color, a green or watery stool or one containing blood should be reported. If the bowels move well once a day it may be sufficient. Five or six movements a day, if they are normal in appearance, need not occasion uneasiness.

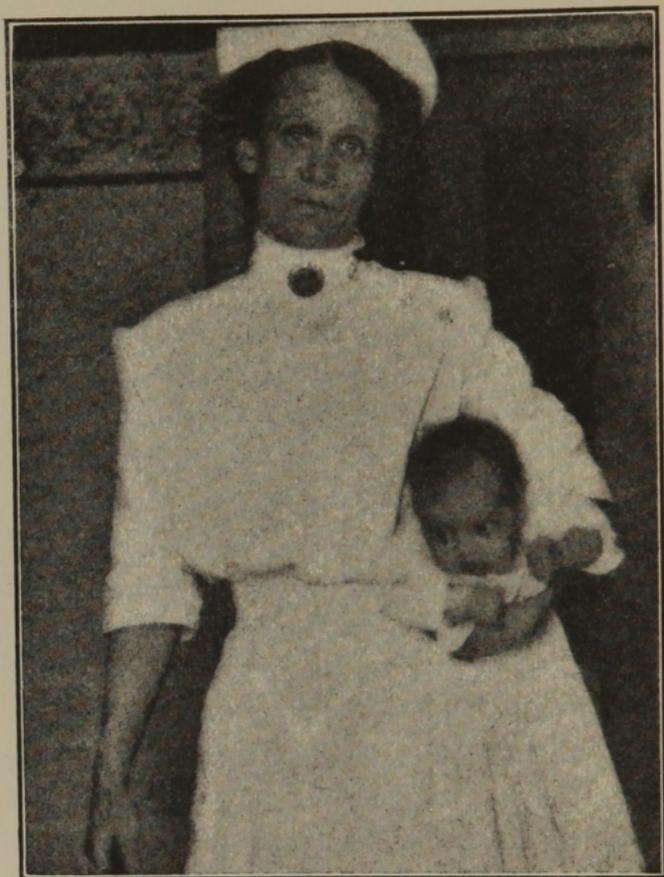
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Control of Excretions—Training in control of bowels and bladder may begin as early as the latter part of the first month. The child may be placed on a small jar or bowl at frequent intervals, as often as once an hour at first. Twice a day a small soap or glycerin suppository may be used, or the simple insertion of an enema tip may be sufficient to start the rectal reflexes. This training seems a slow process, but the child learns after a time to associate the position on the jar with the reason for it, and the trouble taken at first is well repaid by the lack of trouble later. Many instances can be cited where a baby rarely had a soiled diaper after the age of three months, nor a wet one after six months.

Medicines—Laxatives, even the simplest, should not be given without the advice of the physician. The same rule should be made for all other drugs and for all sorts of teas, or, in fact, anything which is not food nor water. The practice of dosing the baby, even with harmless remedies, often lays the foundation for future stomach and intestinal troubles.

Enemata—A simple enema may be given

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PROPER WAY TO CARRY BABY

upon the nurse's own responsibility. Warm water is usually sufficient, though a little weak soapsuds made from white soap may be used if it seems necessary. In cases of

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diarrhea nothing is better than a cold enema, and the nurse may give this before she sends word to the physician.

A convenient way to give an enema is to place the baby on a douche pan, with a firm pillow under the head and shoulders. This is comfortable for the child, and saves much soiling of clothing.

Unusual Conditions—If the head is out of shape from a prolonged labor, the parents may be reassured in regard to it. No treatment is necessary, though some of the grandmothers were taught that the head ought to be molded into shape. Such deformities rarely persist for more than forty-eight hours, and no harm is likely to result from them.

Forceps marks, unless deep, need no attention. If the skin is broken, or there is much bruising or swelling, the physician's attention should be called to it. He may order a hot application or an ointment. Whatever substance is used should be sterile, as for any wound.

Facial paralysis from forceps, even if considerable, usually lasts but a few days, and need occasion no alarm.

Vomiting of brown material ordinarily

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means that the mouth or nose has been bruised during delivery and the blood swallowed. It is not cause for alarm unless there are other symptoms of hemorrhage.

Severe hemorrhages do occur during the first few days. If not checked shortly the baby may not survive a week. There may be hemorrhage from the mouth, nose, skin, stomach, umbilicus, intestines, etc. Astringent applications may be ordered or hemostatic drugs given, but treatment is rarely satisfactory. Very little is known of the condition which produces these hemorrhages, but they are considered infectious in origin.

Hemorrhage from the vagina is not uncommon. It should be reported, but no treatment is likely to be ordered unless the flow is profuse or long continued. This condition is incorrectly called menstruation. If a douche is ordered, it may be given with a small glass piston syringe.

Hematoma, a collection of blood under the scalp from an injury during delivery, is best left alone. It may persist for months, but usually takes care of itself.

Milk sometimes appears in the baby's

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breasts during the first few weeks of life, more commonly among male children. It should be reported and a snug bandage may be applied, but the breasts should not be squeezed nor handled roughly. The nurse should watch for any marked enlargement or pinkish coloring, suggesting infection.

The so-called "blue baby" is a child whose blood is imperfectly oxygenated. It was formerly supposed that the trouble was due to lack of closure of the foramen ovale, but it is now claimed that it is caused by obstruction of the pulmonary orifice. The condition is commonly fatal and if the child survives it is likely to always be frail. The treatment is utmost quiet and careful feeding.

A more or less detailed report of the baby's condition should be made to the doctor each day, whether he asks for it or not. The physician assumes that the baby is doing well, unless the nurse informs him to the contrary. Any unusual condition should be shown to the physician, not simply told him. As a preventive of misunderstandings, it is wise to have the doctor see the baby at each visit. Do not ask if he wishes to see it, but bring it in or call his

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attention to it as a matter of course. Neglect in this may lay both doctor and nurse open to serious criticism in case anything goes wrong.

PART IV
Feeding

IF IT be essential for the welfare of the child that the prospective mother have congenial surroundings and a tranquil mind, it is quite as much so for the nursing mother. No mother should nurse her baby when she is grieved or very nervous or angry, as changes take place in the milk under these conditions which render it almost poisonous and may cause serious illness. Far better let the baby go hungry for a few hours than run such a risk.

If nursing is delayed for any reason, be careful that the child does not overeat and indigestion result.

Quality and Quantity of Milk—Drugs taken by the mother frequently affect the child, notably cathartics. Saline cathartics diminish the amount of milk quite noticeably, and the same thing occurs if the mother takes little fluid. Food which is nourishing and easily digested helps to increase the flow of milk, and is to be preferred to such things as tea, malt, beer, etc. A

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nursing mother should have plenty of fresh air, day and night, and should take some outdoor exercise each day.

The child should never nurse from an inflamed breast. It adds to the irritation already present in the mother and may injure the child's digestion or its general health.

Night Nursing—It is a somewhat common practice for the baby to remain in bed with the mother a part or all of the night. If he is wakeful, as he is likely to be, she gives him the breast. This practice tends to make nursing more or less of an amusement, and the habit of nursing most of the night is soon formed; it injures the baby's digestion, renders the mother nervous and makes her unfit to nourish him properly. In ordinary cases there is no need of night nursing after the first month, and some properly trained babies sleep all night from the time they are born.

Testing Milk—It should be borne in mind that quantity of milk does not necessarily imply quality, and that a child may be improperly nourished when the milk supply is ample. It is not out of place for a nurse

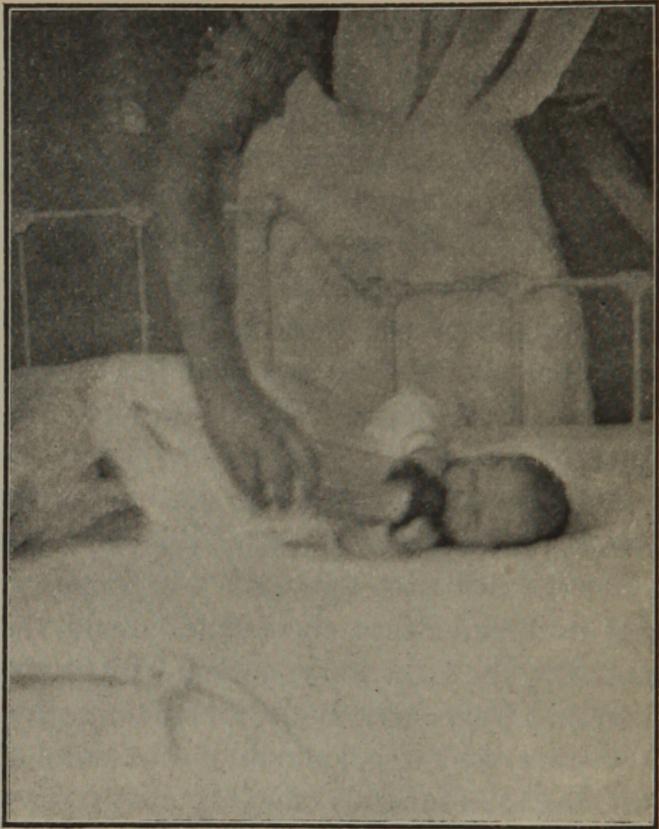
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to suggest this to the physician, in order that an examination may be made by a competent chemist. One test alone may not be reliable, as the milk varies one day to the next, is poorer in quality when the mother is tired or worried and *vice versa*. The milk varies, also, at the beginning, end and middle of the nursing period, and a specimen should therefore include as much milk as can be drawn from the breast at one time.

Sterilize a breast pump and a bottle. Wash the breast well with boric solution, draw the milk with the sterile pump, emptying it directly into the bottle. Send the bottle to the laboratory, corked with sterile cotton. Tests are made for the reaction (whether acid or alkaline), the amount of fat, the total amount of solids, etc.

Wet Nursing—If the mother's milk does not agree with the child or is insufficient, and if persistent efforts to improve conditions are not successful, a wet nurse may be advised. Wet nurses present many difficulties, but they frequently save a life. It goes without saying that a wet nurse should be a healthy woman and neither too young nor

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FEEDING BABY IN CRIB

too old, from twenty-five to thirty-five being the age of choice. She should not be asked to change her mode of living very materially; a woman accustomed to simple food and an active life may be upset by living a sedentary life or eating rich food. If possi-

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ble, see that a nurse is selected whose baby is near the age of the patient, as the milk varies from month to month; this may not be a vital matter, however. If the wet nurse is feeding her baby along with her foster child, it is well to be sure that she is not depriving the one of food which the other needs. Both may be partially bottle-fed in ordinary cases.

In the matter of feeding, no nurse can conscientiously advise anything but breast milk. Living food contains enzymes, ferments, not found in any dead food, which mean much to the weak digestion. Lives have been lost by lack of insistence upon this vital point.

Artificial Feeding—There may be, however, good and sufficient reasons for resorting to artificial feeding. If the mother is tuberculous, in generally poor condition, extremely nervous, has an uncontrollable temper, etc., and a proper wet nurse cannot be secured, the nurse may concur with the physician's advice. The mother need not feel that the change is necessarily a calamity, but may be encouraged to see its advantages. Artificial feeding is undesirable,

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of course, but may not be an unmixed evil.

Habits—A word may be said here about methods of feeding. With children, as with adults, improper mastication, too rapid eating, too frequent or too hearty meals are injurious. If regular habits in these matters are not established early in life, the digestion will probably always suffer.

Start, therefore, the first week, to teach a child that eating is a business, not an amusement. Have it industriously and systematically attended to, then dropped out of mind. Industry must be insisted upon, or many children will dawdle over food or play with it, forming habits which are both annoying and injurious. A breast-fed baby should be kept awake and nursing for the required time, and the same remark applies to a bottle-fed baby. If this habit is formed during the first few months, it will be very little trouble to have it continued. On the other hand, a child should not be allowed to eat too rapidly, to take food in large quantities at a time. If food is not well mixed with saliva it is a serious omission, as this secretion plays an important part in diges-

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FEEDING BABY IN NURSE'S LAP

tion, especially of the starchy foods. Even with small infants, before the saliva becomes a factor in digestion, rapid eating causes indigestion, or at the least regurgitation.

In feeding a bottle baby, do not leave the

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child alone in its crib. Even if a bottle holder is used, the baby is likely to move or the bottle to slip; the milk may run too fast or too slowly, or the baby may fall asleep. The child should lie in the crib, being placed slightly turned on its side, while the nurse sits beside it and holds the bottle; or the child may be held in the nurse's lap, while she holds the bottle at such an angle that the contents will flow properly and continuously. If the nurse lacks the time to do this, the mother or some other person may attend to it. Wrap the bottle so that the food may remain warm; a flannel or knitted wool cover made to fit the bottle is best.

Kind of Food—The authorities still disagree as to what is the best artificial food for babies, and a nurse can, therefore, be only an unprejudiced observer. As a matter of fact, no one food will suit all infants, and that which is best in theory may not be so in practice. Sometimes, also, a child will thrive in spite of its food, not because of it. Under no circumstances should a nurse suggest any particular food. Her work is to see that the food is properly pre-

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pared and given, to make careful observations and to report existing conditions.

In the matter of proprietary and patented foods, a nurse must be conservative. Nearly all of these preparations are deficient in proteid, the muscle-making and tissue-building element, and contain an excess of sugar and fat-forming constituents. Children fed upon them gain in weight, but the flesh is fat rather than muscle; while these children are apparently healthy, they succumb more readily to disease than those brought up on a more natural food. A nurse must be unprejudiced, for there are many cases where milk foods cannot be used, and one of these substitutes may tide over a critical period.

There is one point of vital importance which a nurse should lose no chance to impress. The child which is fed upon milk foods only for its first year has a much better chance of life and health than one partially fed on something else. Absolutely nothing but milk foods are to be given for the first ten months, and if they are continued until the end of the year so much the better.

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Preparation of Food—Whatever food is used should be prepared with exactness and scrupulous cleanliness. Reliable measures should be provided and used. Bottles should be washed immediately upon being emptied, with boiled water, or that known to be pure. All utensils used in the care or preparation of the food are best boiled once in twenty-four hours. Almost the only appliances needed are an eight-ounce graduate, a small cream dipper, and a glass tube bent into a U-shape, to be used as a siphon. A large bottle or ten small ones will be needed for keeping the food.

The sort of nursing bottle does not matter particularly for a very young baby, except that a straight bottle without a neck is more easily kept clean. The nipples used should be short, as the usual type goes too far back into the baby's throat. The nipples should be washed immediately after using, and kept in a solution of boric acid. They may be boiled on alternate days, as too frequent boiling ruins the rubber and makes the nipple collapse.

Modified Milk—This is the nearest approach to human milk which is obtainable,

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providing it is properly prepared. In this country we use cows' milk as a foundation, though it should be remembered that it is a food which Nature intended for calves, creatures much coarser in structure and more rapid in development than human babies. It is in itself too strong and too coarse a food and must, therefore, be considerably diluted and modified to be digested. In a general way, cows' milk contains more proteid, less fat and less sugar than human milk.

In the few cities where Walker-Gordon laboratories exist, and where there are physicians familiar with the laboratory preparation of milk, one naturally takes advantage of these thoroughly scientific facilities, but usually it becomes necessary for the nurse to make a home modification. If her teaching and experience in this work are deficient, she should, at any rate, familiarize herself with the theory of it. The books by Holt and by Fischer give much help. Rotch is considered an authority. Cotton and DeLee are very useful, also Friedenwald and Ruhrah, in their book on "Dietetics."

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A formula should not be expressed in terms of "milk," "cream," etc. Milk may mean whole milk, skimmed milk, or something between the two. Cream obtained by skimming a pan is one thing, that taken from a bottle is another, and that separated by a machine is still another. Insist upon an exact specification of what sort of milk and cream is to be used.

Holt's formulæ read something as follows:

10% milk (or 7% milk).

Milk sugar.

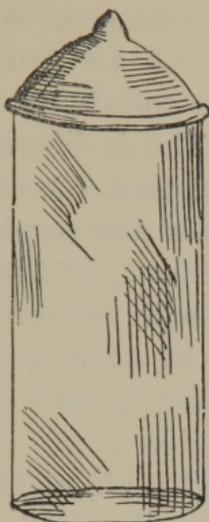
Lime water.

Boiled water.

The milk sugar may be bought of almost any druggist, but one should buy a standard make in its original package, rather than purchasing in bulk. Cane sugar is preferred by some doctors, and if this is used the quantity required is less. Lime water may be made at home or bought at the druggist's. If home made, care should be taken to filter it thoroughly through cotton, as any particles may be harmful.

Ten per cent. milk means the upper third of a bottle of milk which has stood for four hours or a little more. Seven per cent. milk

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NURSING BOTTLES

means the upper half of a bottle which has stood for four hours or a little more. This top milk cannot be obtained by pouring it from the bottle, but must be removed by a small cream dipper or a siphon. There are good cream dippers to be bought in the stores or any tinsmith can make one from a wire and a semi-circular piece of tin. The siphon may be glass or simply a rubber tube.

Several devices are available which simplify the mixing of modified milk. The Estrans "Materna" graduate glass, holding

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sixteen ounces, has seven sides or panels, upon six of which are marked the exact amount of each constituent for any given modification. The six different formulæ are supposed to be used successively, as the baby grows older and requires a different food. Dr. Westcott, of Philadelphia, has devised a chart with two revolving disks, so arranged that by turning the disks the relative quantities of each ingredient are shown.

Preparation of Modified Milk—The milk sugar should be dissolved in hot boiled water; if the solution is not clear, strain it through fine cloth or absorbent cotton. To this solution may be added the lime water, boiled water and milk, one at a time, stirring well. It is wise to scald all utensils just before using, to be sure of their cleanliness. If the milk is not to be pasteurized or sterilized, it should be put immediately into sterile bottles, large or small, as the case may be, corked with absorbent cotton and placed immediately upon the ice.

It is best to prepare a quantity sufficient for twenty-four hours. Ten feedings will be required for a young baby and fewer for an

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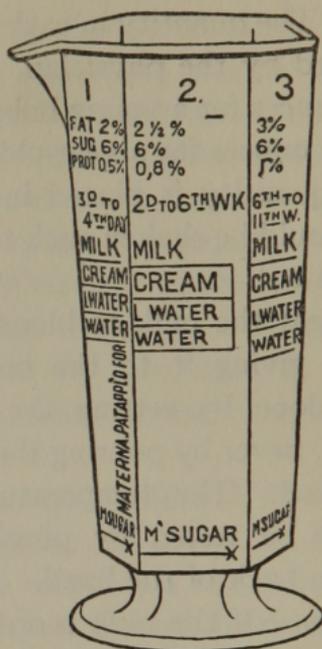
older one. The quantity in each bottle will be prescribed by the physician, and varies from two ounces for a young baby to ten or even twelve ounces for a year-old child. If the entire quantity is placed in one large bottle, it should be shaken each time before any is taken out.

Always heat the milk to blood temperature before giving it to the baby. This should be done by setting the bottle in warm water, never by pouring the milk into another vessel. The temperature of the milk should be tested by pouring a few drops on the back of the hand.

Sterilization—If the milk is ordered sterilized, it may be done by setting the bottles in a deep pan of water and boiling for one-half hour, then placing immediately upon ice. Sterilized milk is rarely ordered nowadays, as it is claimed that complete sterilization kills the ferments which are needed to insure proper digestion, literally “taking the life out” of the food.

Pasteurization—This is commonly practised, as the process kills most of the harmful germs without destroying the ferments. In order to accomplish it, the milk must be

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MATERNA GLASS

heated to about 160° F. and kept at that point for about one-half hour. This is best done by means of a special apparatus, but may also be accomplished in a fairly satisfactory manner, if a thermometer is used, and the process carefully watched. Unless milk has been handled with the greatest of care, *i.e.*, is "certified" milk, it is wise to pasteurize it.

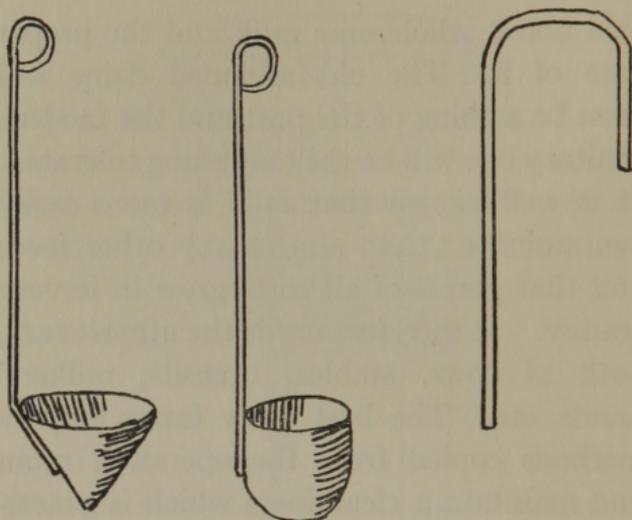
Clean Milk—Much has been written and

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said about wholesome milk and the proper care of it. The old-fashioned dairy will soon be a thing of the past and the modern sanitary one will be the only thing tolerated. It is well known that milk is more easily contaminated than almost any other food, and that germs of all sorts grow in it very readily. It therefore needs the utmost care, both of cows, stables, utensils, milkers' hands, etc. The best dairy farms employ methods copied from the operating room and maintain a cleanliness which is practically surgical. Besides this utter cleanliness, the milk must be cooled rapidly and thoroughly to prevent the growth of any bacteria which may still be in it.

The general condition of the cow from which the milk is obtained is obviously important. Cows are specially prone to tuberculosis, and should be tested often enough to make sure that it is not developing. The Holstein cow is considered the best for producing milk for babies, as this breed of cow is less prone to disease than others, and the milk, while somewhat less creamy, contains more proteid. The Jersey is not thought to be a good cow for obtaining milk for babies.

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DIPPERS AND SIPHON

Milk from a herd of cows is better than that from an individual, as it is less likely to vary from day to day, and any peculiarities are less noticeable.

Special Preparations—*Peptonized milk* is sometimes ordered when the child's digestion is feeble. This may be done with the so-called "peptonizing tubes," or with peptogenic milk powder. In either case, exact following of the printed directions is necessary. Prepared by the *cold* process, only a partial peptonization takes place, but this is sufficient in most cases, and the milk is ren-

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dered more palatable than when it is done by the aid of heat. Peptonized milk is usually only prescribed as a temporary food. Parents should be informed that it must not be continued more than a few months without expert advice.

If the child is inclined to constipation, *oatmeal water* or gruel or *oat jelly* may be used to dilute the milk instead of boiled water. Oatmeal is decidedly laxative in its action, but the exact amount to be used must usually be determined by experiment with each individual case. If made from oatmeal, the meal should be soaked over night in cold water. If from rolled oats, this is unnecessary. In either case the oat preparation should be put on in cold water and heated gradually, then allowed to cook slowly for an hour or more. After thorough cooking, it is to be strained through fine cloth while still hot. It should be thick enough to jelly when it becomes cold. This jelly or gruel should be kept on ice until it is used. If less laxative effect is desired, oatmeal water—simply a thin jelly—may be used.

If there is a tendency to diarrhea, *barley*

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or *rice water* may be used with the milk. Rice water is made much as oatmeal water is, by a thorough cooking of the grain. Barley water may be made in the same way, but it is usually more convenient to make it from barley flour (Robinson's is the best), using a tablespoonful to a pint of boiling water, and cooking for twenty minutes.

Barley gruel alone may be prescribed temporarily when milk does not agree. This should be made thick. *Beef juice* is sometimes given with it, in the proportion of ten drops to an ounce of barley gruel for a very young baby, to a teaspoonful per ounce for an older child. This combination is very satisfactory in cases of dysentery or cholera infantum.

Whey is sometimes prescribed, especially with premature babies or with those whose digestion is weakened by disease. It may be given alone or have cream added to it. To make it, heat one quart of either whole or skimmed milk to 100° F., remove from the fire and add two drams of essence of pepsin or liquid rennet, stirring only enough to mix well. This will coagulate the casein

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of the milk into the form of a curd, which when cool may be broken up with a fork. The whey is the fluid which remains and contains the more easily digested constituents of the milk. If cream is ordered given with it, the rennet enzyme must first be killed by heating to a temperature of 150° F., but it must not be allowed to go over 155° F.

PART V

Feeding of Small Children

SET it down as a first principle that if a child is properly fed he will be well. Excepting accidental injuries and contagious diseases (both of which are among the unusual things of life), practically all children's illnesses are traceable to their digestive organs. This makes the matter of feeding little children a very vital thing.

When your opinion is sought as to whether this or that article of food will "hurt" a baby or small child, the only safe and sensible ground to take is that one should limit a child's diet to what one *knows* to be wholesome, rather than to take chances with things which are questionable. Not often can an illness be traced to a definite indiscretion, but it is usually very easy to trace it to repeated indiscretions. Nature bears a great deal of ill treatment, but finally enters her protest. There is no wisdom in pushing her to her limit.

Quantity of Food—Most physicians agree that ordinary people, including children, eat

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too much. Certain it is that few people eat too little. A healthy child can take care of an excess of food, but why tax him to that extent? He needs supervision in his eating, chiefly to see that he takes enough of that which has a food value, rather than a quantity of material which may be "filling," but contains little nourishment. For example, a cupful of bread and milk may be quite worth while, but a large slice of watermelon has practically no food value.

Number of Meals—During the second and third years of life a child should have five meals a day. Something should be given him soon after waking in the morning, as children are usually hungry at this time. The following is a good schedule for a baby beginning his second year:

7 A.M.—A cupful of warm milk, one-fourth being gruel.

10 A.M.—Eight ounces of warm milk and gruel.

1 P.M.—Eight ounces of broth (beef, veal, mutton or chicken) or yolk of lightly boiled egg with bread crumbs.

4 P.M.—Eight ounces of milk with gruel.

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7 P.M. (or bedtime)—Eight ounces of milk.

Orange juice up to the amount of two tablespoonfuls may be given about 9.30 A.M., especially if there is any tendency to constipation.

As the second year advances, it is advisable to add more substantial articles, but those known to be easy of digestion, such as beef juice, egg albumen stirred with cold water or milk, well-cooked rice, thoroughly baked white potato, sago, gelatin, corn-starch, tapioca, custards, junket, stewed apples, prune juice, the pulps of seeded grapes, ripe bananas rubbed through a sieve and served with cream, or even scraped beef or well-cooked fish.

From the fourth year on, three meals a day should be the rule. This should not prevent one's giving a hungry child a light lunch between meals, if the occasion demands. When a child has been "playing hard," *i.e.*, taking active physical exercise, and is willing to drink a glass of milk, a cup of broth or cocoa, or eat a slice of bread and butter, it should not be denied him. If his appetite calls for cake, cookies, preserves,

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candy, etc., one may with reason insist that he wait until meal time.

If a child complains of hunger at bedtime or in the night, and is content with a glass of milk or some small crackers, they should certainly be given.

Food Values—In childhood, even more than in later life, a *balanced ration* is important. Children must be provided with not only the material to supply the daily waste of muscle, blood, fat, heat and energy, but must have material to use in growth. They must have food constituents which will make bone, muscle, blood, fat, tendons, blood vessels, teeth and all organs. These must be supplied in such a form as not to overtax the organs of digestion and assimilation, nor clog the organs of elimination.

Classes of Food Required—There must be *proteid*, for muscle and energy; such food as meat, fish, grains, cereals, milk, eggs, dry peas and beans.

There must be *carbohydrates*, for heat and energy, such as the starches and sugars which are found in all grains, fruits and vegetables.

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There should be *fats and oils*, for heat and energy, such as cream, butter and vegetable oils, though less of these is required in warm weather.

There should be the *mineral salts*, for bones, teeth, brain, etc., as contained in fruits, vegetables and water.

Milk is nearly a perfect food, and bread and milk could be used for a child's diet without any addition. Modern conditions, however, make it desirable to have the diet more varied. Most children require some fruits or vegetables for their laxative effect, as well as for their mineral salts. Fortunately, the appetite of a healthy person is a pretty good guide, and even in illness nature gives us a good many suggestions about diet if we will heed them.

A goodly amount of fluid should be taken by children, avoiding only large quantities at one time. The tendency is to take too little, and there is not much likelihood of a child drinking too much water or milk if he takes it slowly.

Necessity of Supervision—It should be remembered that children are extremists, and that self-control has not yet been

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learned. They should therefore be given guidance as to quantity and quality of food, should not be allowed to indulge too freely in a favorite food nor to neglect articles needed to make a balanced ration. A healthy child may be allowed to follow his appetite largely, and if he insists that he is not hungry it is better not to urge food upon him; the digestive organs may have been unwittingly overtaxed and nature be endeavoring to correct the difficulty. A sick child, of course, needs more restraint or encouragement.

Individual Requirements—Mothers and nurses should realize the close connection between careful feeding and health in individual as well as general cases. A child may be allowed a more varied and hearty diet if he lives outdoors and romps and plays there in all sorts of weather. The child whose circumstances debar him from such a life will have a more delicate digestion and must be more carefully watched. Family tendencies and heredity should be studied, that the balance of power may be thrown on the side of health. If there is tuberculosis in either father or mother, make meat,

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eggs and milk the basis of the diet. If there is a tendency to fermentative dyspepsia, starches and raw fruits should be eaten sparingly, and meats, eggs and green vegetables be the diet. If there is irritation of the kidneys or fear of Bright's disease, very little meat should be eaten. Scant, acid urine also calls for a reduction of meat. The common tendency to constipation may be counteracted by large amounts of fluid, especially warm fluid, rhubarb, prunes, cooked apples, peaches, grape juice, orange juice, dates, figs, tomatoes, coarse breads and cereals, green vegetables, olive oil and honey.

Cooking—It may be that raw food would be appropriate were we living in "a state of nature," but under civilized conditions there is no doubt that cooking is an important factor in the proper preparation of food. Children in particular do not masticate hard food well, may be unable or unwilling to do so. Such things as raw cabbage, radishes, celery, cucumbers, beets, corn, etc., are therefore not suitable food for children; even when cooked, they are still not much better.

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On the other hand, meat, fish, potatoes, beans, peas, and some of the fruits are rendered wholesome by cooking. We find some form of cooking necessary to secure variety and digestibility.

Again, improper cooking may convert a wholesome food into an indigestible substance. This is notably true of fried foods, as the portion which has been hardened while in contact with the hot grease is scarcely attacked by the digestive juices at all. Certainly children's digestive organs should not be taxed with such things as fried meat or vegetables, fritters, hot cakes, etc.

Cleanliness—Absolute cleanliness should be the rule in the kitchen. We have learned that a clean dairy is necessary to insure wholesome milk. So we must learn that a clean kitchen and a clean refrigerator are necessary to insure wholesome food. Cooking utensils should be of granite or aluminum, and should be properly washed and well scalded. Dish cloths should be wholesome and dish towels clean. The cook's hands and dress should be kept clean. Vegetables and fruits which are to be served

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raw should be plunged into hot water to free them from germs, then put quickly into cold water to secure crispness; they should not be allowed to soak in water until the flavor is spoiled.

Serving—Children are quite as sensitive as grown persons to the manner in which food is served. They may not appreciate the refinements of linen, china and manners, but daintiness certainly has its effect upon them. A small quantity of meat on an attractive plate, a “cunning” rounded pile of potato, gelatin from a mold rather than a spoon, a few ounces of broth or cocoa in a dainty cup, bread in sticks or strips instead of a slice, thin sandwiches instead of plain bread, an egg in a small cup or a tiny baking dish, all serve to render food attractive to little people.

With well children any attraction should not be allowed to interfere materially with the business of eating; but with sick children, where appetite is capricious or lacking, there is great justification in making a play of the matter. Houses may be built of strips of toast; farmyards surrounded with pieces of bread and dates, figs or prunes

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placed inside for the animals; lakes can be made of cereal, with milk in place of the water; caves can be built of mashed potato, and many other attractive things can be devised by the nurse who puts her mind to it.

Variety—It is generally conceded that variety is desirable as far as it is needed to make a balanced ration. The average child will be content with a rather monotonous diet, while grown people, especially in America, eat too many kinds of food at a meal and demand variety for variety's sake rather than for any real need. Attempt to get variety often results in unwholesome combinations. Study the things which the best cooks serve together and you will find them scientifically correct.

There is an advantage in teaching a child to like many sorts of food, since circumstances may arise when it becomes necessary for him to eat things to which he has not been accustomed. It is wise to insist that a child take at least a taste of any new food which is presented to him, providing, of course, that it be wholesome.

A child of three years may have a daily dietary somewhat as follows:

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Milk, *ad libitum*.

Cream, 4 to 6 ounces.

Meat broth with rice or barley, vegetable or cream soup.

Bread with every meal (this may include some variety, as rye, graham, whole wheat, rusk, zwieback, etc.).

Fruit once or twice a day (baked apples, oranges, peaches, pears, or grapes, if mature and carefully selected, not over-ripe).

Cereals for breakfast, dry or cooked.

Meat for dinner (lamb, beef, mutton, chicken).

Vegetable for dinner (peas, beans, potatoes—creamed or baked, spinach, asparagus, cauliflower, lettuce, etc.).

Dessert for dinner—custards, cornstarch, junket, gelatine, ice cream, simple puddings.

Older children may have biscuits or muffins, melons, plain cake, cocoa and chocolate, salads and salad dressing, and simple home-made candy at the end of a meal. Eggs are, of course, always allowable, if they are not fried.

Rotch believes that meat may be given early in the second year, using chicken, mut-

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ton chop, roast beef and steak. Other authorities consider it better to postpone meat as long as possible, or even to omit it altogether. There is no doubt but that healthy persons, whether young or old, can get on without meat, providing only they take a sufficient quantity of proteid food in its place. This is somewhat a matter of taste and circumstance and may be left to be worked out for each individual.

Rotch advocates a considerable variety of food as early as the age of two and a half, suggesting a good deal of fruit, and vegetables, such as squash, string beans, young peas, spinach, etc.

Lewis forbids the following articles for all young children: Ham, sausage, pork in any form, kidney, liver, meat stews, salt fish, dried beef, canned meats, game, duck, goose, dressing from roast meats, all hot breads or rolls, fried vegetables, griddle cakes, raw or fried onions, cabbage, carrots, radishes, raw celery, cucumbers, beets, tomatoes raw or cooked, corn, eggplant, and potatoes, except when boiled or roasted; all cake, except the very plainest; salad, pastry, jelly, preserves,

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dried fruit, bananas, nuts, candy, tea, coffee, cocoa, wine, beer, etc.

This makes a very restricted list and some of the items seem harmless enough. It is well to err always on the safe side and wiser to limit a child's diet too much than to urge him to a variety which may be harmful.

To summarize:

Remember the *importance* of the child's food, his need of material by which to grow, and the fact that *children's illnesses are usually of digestive origin.*

See that *a balanced ration* is provided.

See that food is *cooked* in a cleanly and proper fashion, and *served* in an attractive manner.

Provide sufficient *variety* for health and for emergencies.

See that food is *properly eaten.*

Omit all questionable foods.

PART VI

Premature Babies

THERE are several causes for babies being born prematurely, disease or overwork on the part of the mother being the most common. Shock is also a factor in some cases.

Nurses should combat the notion that premature children will not develop mentally as well as full-term ones, since this has been disproven. They should also contradict the popular idea that a seven-months baby survives when an eight-months one does not, as this has no foundation either in science or in fact.

It is almost impossible to determine the exact amount of prematurity, and any statements concerning this matter should be given with extreme caution. Most authorities agree that an infant does not survive if born before it has passed the twenty-seventh or twenty-eighth week of intra-uterine life.

The Child's Handicaps—The premature child's three handicaps are lack of subcuta-

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neous fat, lack of lung development, and feeble digestive powers.

Because of its lack of fat (which is formed almost entirely during the later weeks of pregnancy), radiation of body heat takes place very rapidly, vitality is lowered and all functions interfered with. For this reason the child must be kept warm from the moment of birth, or it may die simply as the result of chilling.

During fetal life most of the organs are working to a degree, but this is not true of the lungs; they are therefore behind the rest of the body in development and often fail to unfold properly at birth and permit the air to penetrate. It is the nurse's duty to see that the baby cries vigorously at birth; neglect of this may cost the child its life, because the blood will not be perfectly oxygenated to begin with, and the matter grows worse from day to day.

The digestive organs, being not yet ready for use, are feeble. The nourishment given must therefore be of such a character as to be easily assimilated, and the time and amount of feeding should be observed with great care day and night.

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The temperature of a premature infant is usually subnormal until it begins to gain in weight, when it may go above normal. A continuous subnormal temperature is a grave symptom.

Cyanotic attacks may occur early or at any time. For these two or three drops of brandy or whiskey in a half-dram of warm water may be given by mouth or by rectum, preferably the former, as it is more rapid and certain. Fainting may occur from a slight disturbance; for this reason, it is well to keep the baby in a horizontal position. Oxygen in small quantities may be given when there is imperfect respiration and usually helps. Convulsions may be met by the giving of a mustard bath or pack. For the mustard pack, wring a cloth out of strong mustard water (a teaspoonful to a pint) and wrap it about the child, at the same time placing a cool cloth upon the head.

The most frequent causes of death in premature babies are disturbed heart action and lung insufficiency.

Preparation and First Care—When a premature birth is inevitable, the delivery room

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should be heated to 80 degrees or over, and a basket or crib provided, which shall be heated by means of hot water bags or bottles. Extra help should be secured so that the baby may be looked after promptly. The maintenance of bodily heat is of first importance.

Many devices have been used to keep premature infants sufficiently warm. An old peasant custom was to place the child in a jar of feathers. Winckel used a continuous warm bath. A box nearly closed, heated with hot bottles, has frequently been used. Some large hospitals, notably Bellevue, of New York, keep their premature babies in a small hot room. Other authorities insist upon the modern style of incubator.

Incubators—The chief faults in the old-fashioned, crude incubators were their irregular heat and their lack of ventilation. The modern forms have overcome these difficulties to a great extent. They are provided with a heating arrangement controlled by a thermostat, and with ventilating apparatus. The criticisms upon them are due chiefly to defects in these two things. While presumably automatic, they must be closely

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watched, as the ventilating apparatus does not always work, particularly in warm weather, and the thermostat may be disarranged by an accumulation of dust or rough handling.

The advantages of an incubator are: Even heat from hot water or electricity; fresh air warmed before it reaches the child; means of regulating the moisture of the air. Some of the newer patterns have a scale attachment so that the baby may be weighed without removing it from the incubator.

A nurse must be in constant attendance upon an incubator baby. She must see that the ventilating fan at the top is moving; must note the thermometer to insure control of heat; must see that the hygrometer stands at normal and, if necessary, dampen the air by means of a saucer of water set in the incubator or by a wet sponge or piece of gauze hung inside. She must see that all excretions are promptly removed, as the high temperature causes them to decompose rapidly. She must attend to the feeding with regularity and promptness.

Value of Incubators—Crede and Tarnier were among the first to make public their

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opinion as to the value of the incubator. They are warmly in favor of it, and Tarnier published statistics which prove its efficiency. Holt and Edgar, who are authorities in this country, are skeptical as to its value. DeLee, who has had much experience and is equally good authority, considers the incubator essential in the care of premature babies.

When to Incubate—Practically all authorities agree that any infant weighing $3\frac{1}{2}$ pounds or less should be put into some sort of an incubator. Cooke advises the incubation of all under $4\frac{1}{2}$ pounds. The enthusiasts say all under five pounds. The doubters would not incubate any child which seems to have a fair chance of life without it. The facts seem to indicate that a healthy baby of four pounds weight can usually be cared for without an incubator.

The points to be considered are the child's weight, rather than the supposed amount of prematurity, and its general condition. These things cannot be determined by any fixed rule, but must be left to the individual physician.

Essentials of Care—Edgar and Sherman

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consider keeping up the bodily heat as the prime factor of importance. Cotton also lays emphasis upon this and advises feeding a milk sugar solution which is easily digested and is heat-producing. DeLee emphasizes feeding and considers mother's milk an essential. He insists upon early feeding. Holt and Rotch would delay feeding until the second day of life, whereas DeLee begins at once. The nurse will, of course, follow her doctor's directions, making her own observations.

Location of Incubator—The incubator should be located in a room which is capable of thorough ventilation. The doors and window of the incubator are opened frequently and the air which enters should be pure. Provision must be made to admit air directly from out of doors into the incubator. In a building not specially arranged for this, a board may be placed under a partly opened window and a hole cut in it to receive the ventilating pipe from the apparatus. The room used should be on the sunny side of the building, but the apparatus should be shaded from strong light.

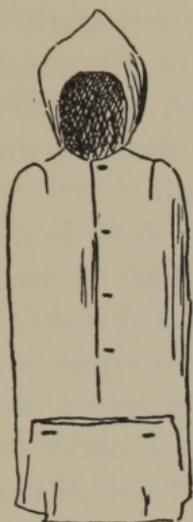
Temperature of Incubator—The thermom-

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eter should be hung above the child's head, never placed in contact with any metal. The amount of heat provided will depend upon the size, vitality and age of the child. It must be remembered that before birth a child has been in a temperature of nearly 100 degrees. A very small baby (one under $3\frac{1}{2}$ pounds) may require a temperature of 95 degrees. Cotton advises 88 to 90. The amount of heat may vary somewhat, according to individual needs. If a child is fretful in a high temperature, or faints, a lower one may be carefully tried. When it is found that a child thrives in an incubator at a temperature of 80 degrees, he may be removed from it and kept in a room at about that temperature, providing it is properly ventilated, and the heat kept even.

Bed—There is usually a grating provided upon which the child is to be laid. This grating has an air-space around the edge, which must be kept free so as to secure proper circulation. The bed may be simply a pad of non-absorbent cotton, covered with gauze to keep it in shape. It should be renewed as often as it becomes lumpy or disarranged, or if there is a suggestion of odor.

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HOODED DRESS
FOR PREMATURE BABY

DeLee advocates the use of down, on account of its heat-retaining qualities. A small down sofa pillow can be had for fifty cents, and is very satisfactory.

Clothing—Little clothing should be used; only enough to keep the baby warm. Cooke advises a jacket made of gauze and cotton, and some of the best infants' hospitals use this. It may have two layers of gauze, or only one, leaving the cotton next to the child's skin. Holt suggests wrapping the baby in cotton, held in place by bandages,

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but this is not particularly convenient, as it quickly becomes disarranged. DeLee declares that such a practice may cost the child's life and that fine wool flannel is the rational material.

A convenient dress is the sleeveless slip referred to in Part I, made of the softest flannel and fastened closely about the neck. These babies lie so quietly that a diaper is not necessary; simply a piece of absorbent cotton or old linen under the buttocks may be used. A soft flannel binder should protect the cord. If the feet are inclined to be cold, wool booties should be used. The head should be protected by a turban or cap made of gauze and cotton. A light wool blanket may be needed for covering, but one should be careful about its weight.

Bathing—Medical authorities agree that the regular bath is not wise for the premature infant. For the first cleansing the infant should be anointed with warm oil or albolene. If necessary, a little warm, soapy water may be used to remove the vernix caseosa, as there is more on the premature than the normal infant. After this cleansing it will not be necessary to give a bath for

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some time. After an evacuation of the bowels the buttocks can be cleansed with albolene or vaseline. It may be necessary to sponge the face and hands, but it will be seen that water causes chafing, irritation and even cracking of the skin. A little bicarbonate of soda added to the water may relieve the condition. It is better to use no water, but simply vaseline, which removes the dirt and acts as an emollient.

A gentle massage should be given each day and an oil rub at least every other day. Olive oil should not be used for this purpose, for even if pure—which is rarely the case—it is not readily absorbed by the skin, and its use may cause an eruption; benzoinated lard or cocoanut oil is far better.

Handling—The premature infant's physical condition demands rest. His daily rubbing and cleansings may be given without removal from the incubator. The nurse must remember to alter his position every few hours to insure comfort. Care should be taken to notice that the ear is not folded over, as permanent deformity may take place.

Weighing—The incubator that has a scale

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attachment gives the infant that much advantage. If not, the child may be removed once daily to be weighed, as the gain or loss in weight is one of the guide-posts to his care. The room should be warm and protected from draughts. The scales should be accurate beyond a doubt and weigh to half ounces with accuracy.

General Care—The eyes should be cared for as in any young baby. The nose should be kept clean by means of a tiny cotton applicator. The mouth should be inspected several times a day and gently cleansed often enough to keep it in good condition. Do not use the finger for this cleansing, but a large, soft applicator, handling it with great care, so as not to break the tender membrane.

Note carefully the amount and frequency of urination and bowel movements, and see that these excretions are promptly removed. Keep the parts very clean, especially about the urethra, as a bit of dried secretion may interfere with urination.

Nursing—Incubator babies are, as a rule, too weak to nurse from the mother's breast. The attempt is sometimes made, only to find

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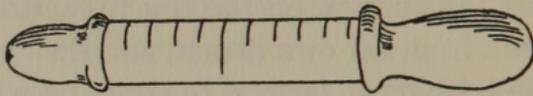
that when the child appears satisfied he is merely exhausted, and has not secured much nourishment. If the teterelle can be used, so that the quantity of milk taken may be seen, it may be well worth while. This is a combination of breast pump and feeder; the mother, by suction on the top tube, draws the milk from her own breast, and then gently, drop by drop, feeds it to the baby without loss of time.

When to Begin Feeding—The nurse must, of course, follow orders in this, but she should remind the physician and see that he gives her some definite plan to go by. Plenty of water should be given from the start. Rotch and Holt give nothing but water or a solution of milk sugar (for keeping up the bodily heat) for thirty-six hours. Cotton advises feeding within a few hours after birth, and DeLee places great emphasis on early and persistent feeding.

Mode of Feeding—If a small doll's spoon can be had, it may be used in feeding, but a spoon is never very satisfactory, as it is difficult to judge of the amount actually taken. A medicine dropper is much better, but a slight roughness on its edge may injure

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the child's mouth and the whole dropper is rather sharp. Probably the most satisfactory feeder is the "Breck," which consists of a short graduated glass tube, with a rubber nipple at the lower end, and a rubber bulb



BRECK FEEDER

at the upper. In filling, both nipple and bulb are removed, a cork inserted in the lower end, the proper amount of milk put in, bulb and nipple replaced. The bulb is used for injecting the milk into the child's mouth, as many of these babies are too weak to make the exertion required in the act of sucking. Care should be taken in using this feeder to have both it and the milk warm, as cold milk is hardly the thing for a feeble infant.

Amount of Food—The tendency is always to overfeed a premature baby. This may cause simple regurgitation, but even this is dangerous, because particles of curd may get into the trachea and cause pneumonia

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or asphyxiation, or the action of the heart may be affected by an overfull stomach.

Cooke's rule for feeding is to "give half the strength and half the amount, twice as often as to a full-term child."

DeLee goes by the child's weight and his tables are very exact. To a child weighing less than three pounds he gives 15 drops of nourishment every 30 minutes for the first day of life, 30 drops every 45 minutes the second day, $1\frac{1}{2}$ drams every $1\frac{1}{2}$ hours the seventh day, and so on. For a baby weighing about four pounds he begins with one dram at 45-minute intervals.

The nurse's record should show the amount actually taken in twenty-four hours. A very small baby may not take more than two ounces per day at the start, while a larger one may take as much as five ounces. The quantity may, as a rule, be increased rapidly, till it is 4 to 10 ounces at the end of the first week. After digestion is well established, the rule is to give an amount equal to one-fifth of the child's weight.

Each baby presents an individual problem in the matter of feeding, and the child's condition and appetite must govern the nurse

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somewhat. If there is no regurgitation and the digestion seems good, the amount may be cautiously increased. Very often the doctor leaves the entire matter to the nurse, but it is her duty to keep him informed of all conditions.

Kind of Food—The best authorities consider breast milk essential in feeding premature children. It should be obtained at all costs, and since the quantity required is so small this should not be difficult. In a hospital, two mothers might be asked to each furnish a part of the amount. It is not necessary that the woman from whom the milk is obtained should be recently delivered, though it is advisable that her child be not more than six weeks old.

It is best to obtain fresh milk for each feeding, but if this cannot be done, it may be kept in a bottle on the ice. All utensils, breast pump, bottle, etc., used should be sterile, the nurse's hands and the woman's breast carefully washed. The bottle of milk should be shaken each time before using so that the cream may be evenly distributed.

At the beginning, equal parts of breast milk and a 4 per cent. solution of milk sugar

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may be used. Pure breast milk may be tried about the fifth day and if well borne may be continued.

As a substitute for mother's milk, whey diluted about one-third, with a small amount of cream added is excellent. Predigested milk combined with barley water, is sometimes ordered. Peptogenic milk is also used. Most physicians do not try the prepared foods. Some physicians use a drop or two of brandy with each feeding.

Gavage, Nasal Feeding—Some premature infants are so weak and small that they are unwilling or unable to swallow. A stomach or nasal tube may be used in these cases.

The tube, a small catheter, should be sterilized, and a small sterile funnel attached to it. (The body of a glass dressing syringe may be used, if no small funnel is at hand.) One encounters no difficulty in inserting the tube, and there is little danger of its going into the trachea. Raise the child's head a little and turn it slightly to one side. Fill the tube with milk and clamp it with the fingers while it is being passed. It is best to have a mark upon the tube about four inches

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from the eye, to insure its insertion a proper distance. The required amount of milk is poured slowly into the funnel, allowed to run down, and the tube gently withdrawn. The child should be laid carefully back upon his bed and allowed to rest for some time afterward. Any regurgitation or symptoms of overfeeding should be reported.

Rectal Feeding—It may be necessary to resort to rectal feeding. For this use a medicine dropper or the smallest catheter obtainable. The nurse will probably find the dropper easiest to manipulate, but she must exercise the greatest possible care not to injure the delicate tissues. The fluid should be given very slowly indeed. After its administration a piece of cotton should be held against the anus for some time to insure its retention, but the peristaltic action of the intestine is usually feeble, and little difficulty is experienced. Alcoholic stimulation may be given with rectal nourishment.

The care of premature children demands
Constant attention,
Exactness in detail,
A gentle touch,
Minute observation.

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To the nurse who can give these the results are often very definite. She frequently saves a life, and always gains the appreciation of the physician and the family. The specialty is one not overcrowded.

PART VII

Nursing in Abnormal or Diseased Conditions

THE opinion that the nurse is a kind of substitute doctor is common, and the nurse should do all she can to abolish this idea. If she will impress upon the laity that she does not diagnose nor prescribe she will save much trouble for herself, her patient and the physician. No well-trained nurse desires more than her own responsibility in a case, and it is seldom that a nurse is called on to take the initiative in the care of a patient, even though that patient is only a baby. The next articles will, therefore, deal with the knowledge a nurse needs to care for a sick baby intelligently, the nursing treatment of the various diseases and special things which she may do in an emergency.

Prevention—An ounce of prevention is better than a pound of cure in nursing, as in other things. A nurse or mother may sometimes prevent an attack of sickness by prompt and intelligent treatment of alarm-

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ing symptoms. As a rule, the health of the baby may be maintained by *proper feeding*, *attention to the bowels* and *plenty of fresh air*. At least one good bowel movement each day must be secured and that by the simplest possible means—by diet for a steady thing, by enema when needed, by laxative or cathartic rarely. The trial for a daily evacuation of the bowels should be made at a definite time. The child must be supplied with well-cooked, simple food at proper intervals. Proper food is as important as regularity in feeding. Great variety in food is not a thing to be desired for children. There are many articles of diet which are not to be even thought of in connection with little children. Fresh air means out-of-door air, winter and summer, and the most of every day, unless the elements forbid. The child may be put in a sheltered nook. The condition of a child who is nervous and a poor sleeper will improve wonderfully under the fresh-air treatment.

It is wise to regard the *tendency to disease* as an abnormal condition. One of the newer ideas in connection with the care of children is to combat the tendency. Dr.

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Pritchard, of London, has written an article on "The Heat-Regulating Mechanisms of Childhood," which is illuminating. His favorite subjects are children with a tendency toward tuberculosis, rickets or malnutrition. He believes in varied thermal stimulation. The first treatments are mild and the child is gradually led from a mild to a stronger stimulation. This is effected by means of air and water. As soon as the child's digestion is established and he is gaining weight, he may be taken out-of-doors properly protected. The first bath he considers should be at 100° . His treatment, as a rule, begins about the fourth or fifth week of life. The temperature of the baby's bath is to be lowered 1° every day, or every other day, according to the individual case. If the child shows a dislike for the cooler bath a higher temperature is resumed. Some of the babies do not enjoy a temperature lower than 80° . Many of his subjects take a bath of from 60° to 70° before they are five months old. As a rule these babies are distinguished for their clear complexion, health and vigor.

Causes of Disease—A large proportion of

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the diseases of infants is due to digestive difficulties. Most of these disturbances may be corrected if the proper attention is given at the proper time. If neglected, death is the most common result, and here a point lost sight of by the laity is that lives are saved through intelligent care and not through drugs. A nurse should learn that while medicine may carry a child through an acute condition, it is almost useless in the continued treatment. The important things are trained watching of symptoms and correct care, and the common causes of diseases are: Impure water, careless feeding and overfeeding, improper clothing, unhealthy surroundings, lack of cleanliness in the preparation of food, and lack of judgment in its selection.

Points in Nursing—Methodical and *exact noting of symptoms* are the first essentials in the nursing of sick infants. This is the basis of all diagnosis and treatment, and it is at this point that the value of the trained nurse's work is shown. The physician may form wrong conclusions from inaccurate or incomplete reports, and his patient suffers accordingly. *Accuracy in the carrying out*

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of orders is the second essential. It is this dependability which constitutes the chief difference between the trained and the untrained nurse. Every nurse who undertakes the care of a child should realize this and know that while her experience may be helpful to her, exactness and keen observation is even more important.

Holt's schedule of what to observe is most useful to the nurse, since it points out the chief factors in the case. It is as follows:

Weight—Note gain or loss.

Stools—Character and frequency.

Vomiting or Regurgitation—When and how much.

Flatulency or Colic.

Appetite—Is the food given enough or too much?

Is the child *comfortable* and *good-tempered*?

Amount of *sleep*.

Weight—A normal child should have firm flesh and muscles which are capable of energetic action. It is possible for a child to gain in weight and not be in good condition, but it is impossible for a child to steadily lose and not be in a serious condition. The child's weight is an important item, and

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during sickness should be noted daily, if possible. He should be weighed without clothing at the same time each day, preferably just before nursing. A graphic picture is given if a weight chart, similar to a temperature chart, is kept.

Stools—The bowel movements are an important factor in determining the condition. A record should be made of the number in twenty-four hours, and the color, consistency and amount noted. It must be remembered the color may change after it has stood for some time; oxidization may occur and what was in color a normal movement may be in twelve hours a green color. The average bowel movement should be taken as a standard for the twenty-four hours, as the movements may vary in the course of the day.

A normal stool for a young baby is a mass of bright yellow particles of the consistency of soft cottage cheese; the odor is characteristic but not offensive. It should be noted if there is pain and straining with the passage; if there be green movements or streaks of green; if there be fermentation or froth. Brown or brownish yellow stools are abnor-

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mal, as are also white or clay-colored stools. There are the green and white stools and in some cases there is tenacious mucus. A colorless, nearly odorless, fluid movement may occur. An offensive odor is always abnormal. Neither a liquid nor a formed stool is normal. A serious condition may be indicated by hard masses or blood. The presence of large curds should be reported, but small curds may be regarded as normal. A normal stool does not cause chafing or irritation.

Vomiting or Regurgitation—Regurgitation is the process of throwing a part of the food from an overloaded stomach. It is a wise provision of nature. Vomiting proper is accompanied by nausea and as a rule occurs some time after the nursing period; the vomited matter will be sour, with, perhaps, curds, and indicates a serious condition.

Regurgitation may also be caused by too rapid feeding, handling after food is given, hiccough, tight clothing, etc.; attention should be paid to all these points. When it occurs the character of the material should be noted; there may be large or small curds or fluid with no curds. The amount, whe-

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ther part or all of the food taken, should be observed. The time, whether immediately after nursing or an hour later, should be noticed. The general appearance of the child is significant; if he be pale or blue about the mouth, or have a cold perspiration about the head.

If all known causes for regurgitation be removed and it still continues after breast feeding, try giving about a half ounce of water a few minutes before nursing. If there seems to be some definite trouble with the digestion, a physician should be consulted.

Colic—The symptoms of flatulency or colic are as follows: Distention of the abdomen, rumbling or gurgling in the intestines, escape of flatus from the abdomen or mouth, a sudden sharp cry, accompanied by kicking or drawing up of legs. A continuous persistent cry is seldom due to colic.

So-called colic may be caused by the formation of uric acid crystals in the bladder. An abundance of water will relieve the condition. Intestinal colic may or may not be a serious symptom. With some babies there is no bad after-effect. With others, colic may accompany malnutrition

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of the worst sort. It is due to a variety of causes: The feeding may be too hasty; the child may become chilled or cold; there may be some indiscretion in the mother's diet; the child may be overfed; there may be either too much proteid or too much starch in his food; the mother may be overworked, tired or worried.

When a nurse has decided colic is present she may try the simpler remedies to relieve it. A bottle of quite warm water by mouth, or turning the baby on his face on a warm water bag may be tried. Rubbing the child's abdomen gently with the hand lubricated with warm oil may prove effective. An enema of soapy water, or better, of milk of asafetida (a teaspoonful to an ounce of water) is almost invariably effective. Whiskey, brandy, paregoric, gin or tea should never be given. One or two drops of essence of peppermint, or five or ten drops of milk of asafetida may be given in warm water by mouth. If the condition persists a physician should be consulted.

Appetite—One may learn much of a baby's condition by his appetite or lack of it. A nurse should note the difference between

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mere sleepiness and lack of appetite; a child may form the habit of sleeping at the breast and later cry from hunger, which is mistaken for colic. Before each feeding the child may be thoroughly awakened (even if it be necessary to bathe his face in cold water) until he forms the habit of waking at the proper time. Always take the time to feed a bottle baby. The practice of leaving a baby alone with his bottle is wrong, and may result in serious injury to the child. Proper feeding at the proper time should not be neglected, even if other work is not accomplished. The best proof that an infant is fed the proper amount of food is that he gains steadily each week and does not habitually regurgitate his food.

As a rule, the amount of food should be in proportion to the child's weight; for example, a child that weighs ten pounds will require more food than a child of the same age who weighs six pounds. The appetite will be influenced by the infant's individual characteristics. If it is ascertained that the child is really not hungry at the proper times, the fact should be reported to the

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physician, that he may take steps to improve the condition.

A child may have a ravenous appetite and not be nourished by the food taken. This is especially true in marasmus cases. The physician may prescribe less food, or more dilute food, and the nurse must explain the reason for this to the mother. The amount of food needed is the subject of considerable discussion among physicians. Systematic overfeeding is advocated by Rotch and Holt, two of the best authorities in the country. Less frequent feeding and smaller amounts of food is advocated by well-known physicians abroad as well as by such prominent men at home as Winters, of New York, and Brenneman, of Chicago. These latter claim that every four hours is often enough to give food in the beginning weeks, and that in a few months three meals a day are sufficient for any child. They tell us the amount of fat and proteid usually given should be reduced and alkalies and carbohydrates increased.

A series of observations on these points by a nurse might be of interest and value.

Comfort and Temper—From the date of

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birth a baby shows his disposition and the observing nurse soon knows his characteristics. These should be taken into consideration. One should note whether the sick baby is good-tempered and seems comfortable, or if he is fretful and disturbed. Remember, also, that a child may be listless from weakness and poor condition, and a quiet baby may be too sick to cry. Two things often not noted, position in bed and clothing, are so closely allied with temper that no one but a trained nurse is competent to judge of them.

Sleep—The amount of sleep of a young baby should be noted. A very young infant sleeps practically all the time, only waking to be fed, bathed and for an occasional vigorous cry. Even in his second year he should sleep fourteen to sixteen hours a day. Disturbed sleep may be caused by indigestion, or may be due to nervousness, from handling, rocking, to lack of fresh air, to cold or dampness. It may also be a symptom of actual illness. The important thing is not to treat the symptom, but to find and remove the cause of disturbed sleep.

Miscellaneous Notes—The nurse should

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note the skin, as to color, moisture, and whether it is cold and clammy or hot and dry. The respiration, whether it is quiet and regular, noisy, or in any way peculiar. If there is any discharge from eyes, nose and ears. The color and condition of the gums, palate, tonsils and pharynx are important. Also the appearance of the tongue.

All these things are commonplace, but are none the less important. The physician looks to the nurse for his ablest assistance, and her work is vital. Faithfulness is of paramount importance in the care of young infants. Vigilance and accuracy here save lives which were otherwise lost to the mother and the world.

PART VIII

Diseased Conditions

THE diseases most common to infancy and childhood are (1) the various forms of digestive disturbance or affections of the intestinal tract; (2) infectious or communicable diseases. In both classes of disease the nursing is all-important, and the trained nurse has opportunity for the exercise of her utmost skill.

Constipation—This is one of the ills which the mother, nurse and doctor must constantly combat. Its prevalence is doubtless due to the character of modern diet, and diet is the best means we have of regulating it.

For some unaccountable reason, most articles of diet which are laxative to a nursing mother also render her milk laxative to the child. Fruits, especially sweet oranges, apples, peaches, plums, grapes and pineapple usually have this effect. Bananas and berries are not desirable. Green vegetables are also excellent, such as lettuce, spinach, celery, tomatoes (if thoroughly ripe), string beans and tender green peas. Some of the

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coarser cereals, if well cooked, and graham bread or gems are suggested. A full glass of water taken on rising in the morning, either hot or cold, is advisable.

A bottle-fed baby may have oatmeal water added to its milk at any age, and the result in overcoming constipation is usually good. After the first few months fruit juice may be given a little while before meals. This may also be used for a nursing baby. Sweet orange or pineapple juice is usually the best.

A harmless and oftentimes effective remedy is half a teaspoonful of olive oil once or twice a day. Sometimes molasses or molasses taffy will have a similar effect.

The nurse or mother should have a regular time for a trial for a daily evacuation, preferably just after breakfast. This should be begun when the baby is a few months old, and continued. A little seat should be arranged so that the child is in a comfortable position.

These simple methods almost always relieve constipation, unless there is some constitutional obstacle, but they are often neglected just because of their simplicity,

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or because they are too much trouble; yet in the end they are far less trouble than caring for a baby who is ill through neglect.

For continued constipation which does not yield to diet, try massage of the baby's abdomen. Anoint the fingers with olive oil or vaseline and use only the tips. Begin at the right side of the abdomen, working very gently upwards and around with a kneading or rolling motion, following the direction of the colon. Deeper pressure may be used as the child becomes accustomed to it, but care must be taken not to pinch or hurt.

Temporary relief may be had from an enema of plain water, salt solution or soap suds. Very little force should be used in giving it, and the temperature should be about that of the body. A suppository of glycerine or gluten, or even soap, may be tried, the gluten being preferable for young babies.

As for the use of drugs, do not give even the simplest laxative or cathartic without a doctor's order. It is not that there may be danger, but that a permanent bad habit may be formed.

Diarrhea—This also is usually caused by

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food. It is most common between the time of weaning and the end of the second year, and more often occurs in summer. It is much more common in bottle-fed babies. In the hot months eternal vigilance on the part of mother or nurse is the price of prevention, and often means saving life. Light clothing, tepid baths, fresh air, smaller amounts of food and plenty of pure water constitute the preventive treatment. If the baby is breast-fed, weaning should be deferred till cool weather. If bottle-fed, the greatest of care must be used to procure clean milk, and see that both it and all utensils are kept scrupulously clean and sweet. A tendency to diarrhea may be overcome by adding to the milk or giving before meals a little barley or rice water (made by cooking the barley or rice in a quantity of water and straining).

If diarrhea appears, a dose of castor oil may be given. This will remove any fermenting or offending material from the digestive tract. At least a tablespoonful should be given, as there is no danger of an overdose, and too small an amount may simply cause nausea and prolong the loose-

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ness of the bowels, when a large dose will remove the trouble in a few hours. It is not necessary to disguise the oil when giving it to children, as they usually take it without difficulty.

Usually all food should be stopped for a half day or longer and only water given. The first food given after the attack should be albumen water or barley water rather than milk or any food containing it. Albumen water is made by stirring (not beating) the whites of two eggs in six ounces of water. Milk is apt to cause a return of the trouble.

An enema of cool water is an excellent remedy in diarrhea from whatever cause. It may be given with safety by any one. Every four or five hours one may give several ounces slowly, letting it be expelled. The treatment is especially adapted to older children, and may relieve when other measures fail.

If in a case where diarrhea is present there is marked prostration, or any other disturbing constitutional symptom, the physician must be summoned at once.

Dysentery—This is an inflammatory condition of the large intestine which produces

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frequent and watery stools streaked with blood and mucus. There is considerable straining with the passages, and usually great prostration.

The disease is infectious, and for this reason the nurse should take much the same precautions which she does in typhoid, being very particular about the cleanliness of her hands, disinfecting all linen, particularly the child's napkins which are soiled by bowel discharges, etc. The child should be isolated from other children. In hospitals, it is customary to provide special nurses for these cases, and not to permit the nurse who feeds these children to change their napkins.

The care must be directed by a physician. Complete rest in bed is necessary. Milk in any form should be discontinued. Egg albumen, barley or rice water, beef juice, liquid peptonoids, etc., may be substituted. Astringent enemata or irrigation of the colon with a large amount of an astringent solution may be ordered. A double catheter or very small Kemp tube may be used for this, or the solution may be given as an ordinary enema and the child allowed to expel it, then more given, etc. The double tube is to be

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preferred, as it causes less irritation. Napkins should be changed when at all soiled, as chafing occurs very readily.

Cholera Infantum—This is quite similar to other diarrheal troubles, except that it is less common and much more severe. It is characterized by vomiting, stools which are odorless and composed of almost pure serum, intense restlessness and thirst, high fever with cold skin and cold extremities, grayish pallor, rapid pulse and a state of collapse. There may be coma. Death often ensues in twenty-four to thirty-six hours.

The treatment consists of frequent small drinks of ice water, salt solution given by hypodermoclysis or by the drop method by rectum, to supply the loss of fluid. Colonic flushings with salt solution or an astringent may be ordered. All medicine or stimulant should be given by hypodermic. Hot packs or hot baths, even mustard baths, may be ordered for the cold surfaces or extremities. The child is not allowed to nurse, and is usually in no condition at first to take any food. The first food given should be very dilute.

Navel Infection—This is well-nigh an un-

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pardonable offense, and when it occurs the blame usually falls where it belongs, upon the nurse. It may be prevented by the use of sterile dressings for the cord and a thorough letting alone. For any redness or moisture use powdered boric acid. If the redness persists, use pure alcohol twice daily, applied on absorbent cotton.

Mastitis—This is an inflammation of the mammary or breast gland, which frequently occurs during the first or second week of the child's life. The trouble is common to both sexes, and is the accompaniment of a fluid resembling milk which is found in the baby's breasts. No attempt should be made to press out this fluid, as serious damage may be done. Keep the breasts very clean and prevent the clothing from pressing upon them. If there is an active infection, necessitating lancing of an abscess, the nurse must prepare a sterile bistoury, a small dressing of sterile gauze, cotton and a narrow bandage; alcohol or a weak antiseptic solution may be asked for.

Stomatitis—This is the name given to small ulcers which appear as white or gray spots in the mucous membrane of the

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mouth. They may be due to a catarrhal condition; to roughness or lack of care in cleansing the child's mouth; to liquids which are too hot; or, more frequently, to digestive disturbances. The treatment consists in keeping the mouth clean with boric or borax solution (the latter very weak), or in obstinate cases the doctor may order the spots touched with burnt alum, a weak solution of silver nitrate, or some other astringent. This may be accomplished by means of a small applicator of cotton, used while the child is crying.

Ophthalmia—This is also called conjunctivitis, since it is an inflammation of the lining of the lids and the covering of the eye. It is an infection, which may be due to the streptococcus, or more commonly the gonococcus.

Whether the infection is a simple one or of gonorrhoeal origin, the utmost precautions should be observed. Three rules may be laid down: 1. Isolate the child and its belongings. 2. Destroy by burning all dressings and applications which have been used. 3. Never let even a drop of solution run from one eye into the other, and *never use*

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anything for one eye which has touched the other.

The onset of the trouble is rather sudden. The conjunctiva is red, and there is swelling and more or less discharge. The treatment usually ordered is irrigation with some mild antiseptic solution, usually boric, and the application of ice compresses to control the inflammation.

If the ice compresses are to be of any value, they must be changed often enough to keep them quite cold. If allowed to remain on till they become warm, they are worse than useless. In most cases they need to be changed every two, or at the most, three minutes. Either gauze or absorbent cotton may be used for them; they should be small and thin.

For eye irrigations, the nurse should ascertain from the doctor exactly how he wishes them done. Some doctors advocate merely a gentle washing out with solution trickled into the eye from a bit of cotton; others say that there must be considerable force to the stream if the work is to be thoroughly done. In the latter case, use a fountain bag or an irrigation can and a medicine

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dropper point, either straight, curved or collared, as the doctor prefers. Have the solution of the required temperature, spread a rubber sheet in your lap, with the end dropping into a jar, steadying the baby's head between your knees. Turn the child's head so that the infected eye is down, and hold the head with the palms of the two hands. The fingers of the left hand may separate the eyelids, while the right hand directs the irrigating point. The bag may be hung four feet above the baby's head, or lower, as the physician desires.

The nurse must make sure in irrigating that the solution actually reaches the surfaces infected and washes out the pus which has collected. If a small quantity of pus be allowed to remain in contact with the cornea it will produce an ulcer which may cause permanent damage. It takes some practice to do a thorough and skillful irrigation. The eye must be opened very gently, and this cannot be done if the baby is crying. Sometimes a drink of warm water will divert the child's attention and enable one to do this successfully. Always be careful in opening

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the eye not to press the fingers into it. Simply pull the skin of the eyelids back.

If drops are ordered put into the eye, the nurse must be positive that they are properly applied. The baby's arms may be fastened with a towel so as not to interfere. Sometimes one may succeed by dropping the solution in the corner of the closed eye, holding the child so that the solution will run in when the eye is opened. Care should be taken that the point of the dropper does not strike the cornea of the opened eye.

Most ophthalmia cases are gonorrhoeal in origin, and must be isolated. Frequently it is necessary to provide two nurses, as in an acute case irrigations may need to be done every half hour and ice compresses kept on a good share of the time. Some doctors are now omitting the cold applications, claiming that they interfere with the nutrition of the cornea. Silver nitrate, which was formerly much used for its direct action upon the germ, is now being replaced by argyrol or protargol.

No unnecessary furniture or other articles should remain in the infected room. The baby should lie in a high crib or on a well-

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padded table. There should be a comfortable chair for the nurse, a convenient place for basins and other utensils, and conveniences for hand-scrubbing. It is best for the nurse to wear a gown and cap, which she removes when she leaves the room. While irrigating, she should wear automobile goggles or large glasses of some sort to protect her own eyes from the possibility of spattering. An infection gotten in this way is a very serious matter. After each handling of the baby's eyes the nurse must thoroughly scrub and disinfect her hands; also, before leaving the room for any purpose. She should never put her hands to her own eyes or even to her face.

A baby with ophthalmia is not usually allowed to nurse, but the milk is pumped from the mother's breasts and fed by means of a bottle. The child's general care must be given proper thought; its digestion must be watched, since proper nutrition is important. Routine bathing must be attended to. The feeding may be done just before or after an irrigation, so that the child may be allowed to have a reasonable amount of rest between treatments. Usually the nurse who

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cares for the baby is not permitted to care for the mother.

Syphilis—Congenital syphilis is not an uncommon condition. Correct care may save some of the children thus afflicted, but most of them die early in life. The disease may also be acquired by the indiscriminate handling and kissing of children. Careful feeding and general hygienic treatment are the chief factors in success with these cases. Mercurials are also given, internally (by mouth), by hypodermic, by medicated baths and by inunction. If mercurial ointment is ordered, observe the usual precautions in its use—protect the fingers with a rubber glove or finger cots, choose a new place on the body each day—abdomen, sides of chest, inside of the thighs, etc. Be careful that no one shall come in contact with any discharge or open wound.

Rachitis, or rickets, is due to lack of fresh air, improper food, unhealthy surroundings, bad condition of the mother during pregnancy, or an inherited weakness in assimilation. It is characterized by deformities, by sweating, tossing of the head, constipation or diarrhea, flabby muscles, curved spine,

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tendency to pneumonia, etc., even though the general nutrition may seem good.

Diet is of vital importance in effecting a cure. Milk should be sterilized or pasteurized. The carbohydrate food should be limited, and the fats increased in quantity; cream may be given, or even fried bacon; cod liver oil may be prescribed. Sweet fruit juices may be given. The child should be restrained from walking, and massage substituted. The nurse should guard against spinal curvature, instructing the mother in correct postures for the child, when asleep, as well as when awake. The physician may apply temporary braces to the curved bones. Children with rickets should be kept out-of-doors as much as possible, providing only that they are properly protected against the weather.

Hernia—This is a rather common occurrence in young children. It is not caused, as the laity usually think, by excessive crying, but may be due to hard coughing, distension from indigestion, or straining from constipation.

The most common form is umbilical

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hernia. These cases usually yield to treatment, but take several months for a cure. A good truss may be made by a circular pad held in place by straps of adhesive plaster with a firm binder over the whole. An elastic band is quite useless. The child should sleep with his hips elevated, and special care should be taken that he does not become constipated.

Inguinal hernia is managed in much the same way, but is more difficult, as the truss required to keep it in place is apt to slip on a small child. Cotton advises the use of a skein of wool passed around the child's waist, fastened at the umbilicus in front, passed between the legs and fastened again to itself in the back. Circumcision should be done for these cases if there is any need whatever of it.

Scorbutus, or scurvy, has been considered due to defects in diet, but is now thought to be of infectious origin. It occurs in epidemics, and in some of these it is found that strict cleanliness of the mouth, secured by means of antiseptic washes, cures the disease without a change of diet.

Spongy gums are a feature of the disease

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and hemorrhages in various tissues and organs. In children a fresh milk diet, or if the child be old enough, baked potato and fresh vegetables, may be given, with sweet fruit juices; this line of diet combined with thorough care of the mouth, usually cures the trouble.

Bronchitis and *Pneumonia* are rather common diseases of childhood. They are often seen in connection with other troubles, chiefly those of infectious origin. There is cough, rapid respiration (sometimes 50 or 60 per minute), high pulse and temperature up to 103° F., rarely higher. When the skin is blue and the respirations extremely rapid, the case is a critical one. Small children swallow their sputum, and frequently cause digestive disturbance by so doing.

The child should be kept quiet and all exertion prevented. Laxatives or purgatives may be needed. Counter-irritants may be used on the chest. Hot baths may be ordered to help the elimination. If the temperature is high, tepid or cool sponge baths may be used, but care should be taken to keep the extremities warm. Only liquid food should be given, preferably something

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warm. The room should always be well ventilated. The best results seem to be had of late by treatment with cold, fresh air. The patient may be put out-of-doors, or in a room with wide-open windows. The treatment seems heroic, but the death rate is less and the percentage of good recoveries is much greater than with the old methods of keeping the patient warm.

If there is sweating, chilling and remitting temperature, empyema may be suspected. If it occurs, the chest abscess may have to be opened, in which case the nurse must know how to prepare for a minor operation.

Croup, or acute *Laryngitis*, is characterized by harsh cough and obstructed respiration. It may appear suddenly in the night. A warm room (about 70° F.) and very moist air usually relieves the spasm of respiration. The crib may be moved to the kitchen and a kettle be kept boiling, with tincture of benzoin or spirits of camphor added to the water. Or, a croup tent may be made by tying a heavy cord from the center of the head of the bed or crib to the foot, and hanging a blanket or quilt over it; the steam from a tea-kettle may be conducted into this tent

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by means of a rubber, metal, or even a heavy paper tube. In many cases the immediate trouble may be relieved by causing the child to vomit. This may be induced by giving a small dose of syrup of ipecac every fifteen to thirty minutes. Some sort of a laxative should be given.

Membranous Croup is diphtheria of the larynx, and is a very serious condition. It never appears suddenly, however. The doctor should be summoned promptly, and vigorous measures may be found necessary. The croup tent may be used, an emetic given, ice applied to the throat or given by mouth. Occasionally intubation must be done, which means a slight surgical operation and watching afterward to avoid displacement of the tube; if this accident occurs the doctor should be sent for at once.

If this condition is suspected, the child should be isolated, any secretion from the throat saved for the physician's inspection. Antitoxin is usually given in even suspicious cases, and saves complications as well as lives. There are no real objections to the giving of antitoxin, and the nurse should

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always concur heartily when the physician advises it.

Meningitis may be spinal or cerebro-spinal. That is, the covering of the spinal cord or of the brain and spinal cord may be the seat of an infection. The way in which the disease is carried is not known, but it sometimes occurs in epidemics. The patient should be isolated and all precautions taken against the spread of the disease. The symptoms are acute. There is intense headache, contracted pupils, sensitiveness to light and sound, retracted head and backward curving of the spine, temperature high or irregular, vomiting, etc. There may be twitching of the limbs, or purpuric spots, or very slow pulse. The cry is high and shrill. The disease may continue for several weeks, or may even recur after a partial recovery. Children who recover from it are frequently defective in some way.

Hot baths may be used, or the ice bag, according to the symptoms presented. Packs or sedatives may be ordered for the extreme restlessness. The room should be kept quiet and rather dark. The nurse should watch for a tendency to bed-sores. If

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the child cannot swallow, rectal feeding or gavage may be employed. Lumbar puncture may be done. The modern treatment is the giving of serum (Flexnor and Jobling) and is considered to have passed beyond the experimental stage and to be advisable in all cases.

Typhoid Fever is treated in children much as it is in adults. The tendency is to restrict the diet less than formerly, allowing a considerable variety of semi-solid food. To reduce the temperature, fan baths or packs are usually better borne than sponges. If the child chills or becomes blue under any cooling process, it should, of course, be discontinued. At the Massachusetts Children's Hospital, no attempt whatever is made to reduce temperature, and the diet is restricted very little, yet the results are most excellent. Many doctors even permit the child to get up to the commode rather than to insist upon the use of the bed-pan.

Infantile Paralysis has been one of the most dreaded, because mysterious, diseases. It is infectious, but the mode of carrying is not certainly known; it is thought to be carried by some species of fly, and it is fre-

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quently epidemic in hot weather and checked by cold. It occurs more often in children under the age of five, but may attack older children, or even adults. It may be ushered in by headache, fever, vomiting, exhaustion, etc., or the paralysis of one or more limbs may be the first symptom to be noticed. Complete or partial disability of one or more extremities may occur. The paralyzed limb usually atrophies, or at least stops its growth while the rest of the body continues. Death seldom occurs, but the trouble may be permanent.

The child should be isolated. Heat may be applied and simple measures used during the acute stage. Massage and electricity are employed later, and in some cases surgery produces remarkable results.

The cases are not hopeful unless treatment by a specialist is begun early. In expert hands, most of the cases have a chance of almost complete recovery.

PART IX

Communicable Diseases

THERE has arisen in the last few years a distinct change in the methods of caring for contagious, or communicable diseases. More is being found out about the diseases themselves, their modes of transmission, etc., and some of the traditions and superstitions concerning them are being discarded. The systematic use of these newer methods began about 1900 at the Pasteur Institute in Paris, though Grancher had used some of the same methods before that time. About four years ago the City Hospital, Providence, R. I., introduced them into this country. That hospital has been the chief exponent of these new and simpler methods, and has now had sufficient experience with them to draw some conclusions in regard to the work and its results. Its success has been most satisfactory, and other hospitals in this country are gradually adopting them. The Isolation Hospital, Jacksonville, Fla., has two buildings planned specially for this new technic and began to

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use it during the last year. The Children's Hospital of Toronto, Canada, is also undertaking it in its new building.

Modern operating room technic has developed by simplification and by the elimination of non-essentials. The technic of the care of communicable diseases has been modified along lines almost exactly similar; in fact, it amounts to a reversed operating room technic, and has been termed "aseptic nursing."

1. In operating room work, we consider all objects unsterile which have not been definitely sterilized. In contagious work, we consider all objects clean which have not been used by patient or nurse. 2. In the operating room we avoid touching unsterile objects when once our hands have been sterilized. In contagious work we avoid touching clean objects when once we have infected our hands. In both classes of work we proceed upon the principle that *practically all infection is by contact.*

There is no doubt that a certain amount of infection occurs in other ways than by direct contact. Dr. Chapin, in his recent book "Sources and Modes of Infection,"

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insists that the indirect sources of infection have been much exaggerated and that contact infection has been too little emphasized. We have, he says, been spending much time and trouble over the things which count for little, meantime neglecting the chief source of trouble. That is, we have been guarding against infections which we believed to be water-borne, air-borne, carried in clothing, etc., when all the time the chief focus of infection was *the patient himself*, and the chief means of spreading these diseases were *his secretions* and *our own hands*.

In the modern contagious hospital, all sorts of diseases may be treated in one building, except as it may be a matter of convenience to classify them. Each ill patient is considered a unit and is treated separately, usually in a small private room or cubicle. For convenience in observation one or more walls of the room or cubicle may be glass. Convalescents from the same disease may be cared for in a ward or treated as a whole, but in the acute stage each patient is entirely separate. When we consider the very real danger from errors

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in diagnosis, and the fact that a child with one disease may at the same time be developing another, we can see that isolation is imperative until convalescence is well established.

No attempt is made, in the modern hospital, to keep nurses for certain kinds of cases, nor are utensils kept separate. Reliance is placed almost entirely upon technic, upon careful and constant sterilization of hands and utensils. The nurse who is well grounded in operating room work learns these methods very readily. She has always in mind the infected condition of her hands and of the utensils and materials which she is handling. All secretions and excretions and their containers are treated as infected. Bedpans, basins, etc., are boiled or thoroughly disinfected after each using. Slop sinks and hoppers must have faucets which can be turned on and off by the foot, knee, or elbow, so that the nurse need not touch anything while emptying utensils. For the same reason, all doors are left open or slightly ajar, or are provided with a lever handle which may be operated by the elbow or upper arm.

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Dishes are used in common; when returned from the patients, they are not set down at all, but placed directly in the sterilizer and boiled. The serving kitchen and its contents is therefore considered clean. Broken food from patients may be dropped into paper bags and burned.

Air-borne infection is counted non-existent. The patient's room is considered to be infected in varying degrees. Everything which he has touched or which has been used in his care is considered highly infected. The head of the bed, the pillows, top portion of the sheets, etc., are the most infected portions of the rooms. The floor, because it is the common receptacle, is counted infected. The walls, except very near the patient, the ceiling, and the windows are thought to be comparatively clean. If a nurse enters the room simply to ascertain what is needed, to bring something, or to do something which does not necessitate handling the patient nor his utensils, she does not put on a gown nor cleanse her hands after it.

If however, she enters the room for actual work with the patient, she puts on a gown

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which hangs just inside the door. The inside of this gown is considered clean, and the outside, because it touches patient, bedding, utensils and nurse's hands, infected. (Note in this an exact reversal of operating room work.) At the City Hospital, Providence, the nurse's hair is not covered, since she never allows her head to touch a patient. For the same reason, her shoes are not considered to be infected. Her hands and the front of her gown are considered the most unclean. After any service which necessitates her touching patient or utensils, she scrubs her hands thoroughly with soap and water, removes her gown, then scrubs again before she leaves the room. The brush is kept in a disinfecting solution, but none is used for the hands except in cases of measles or chicken-pox. Running water is supplied in each room through a "combination" faucet, which gives tempered water, controlled by an elbow valve, this having been found more satisfactory than one with a foot or knee action.

As a concession to public opinion more than for any real reason, the nurses change

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their uniforms before going to meals or off duty, keeping the two dresses in separate lockers. Practically, only the hands are infected, unless something unusual has occurred, and if they have been properly cleansed, she may go anywhere without further preparation. If one keeps in mind the technic of the operating room, it is perfectly easy to understand how these simple precautions, rigidly carried out, are sufficient.

A set of simple rules has been formulated at the Providence Hospital which gives the important points of this sort of technic.

TO AVOID TAKING AND CARRYING INFECTION

Keep fingers, pencils, pins, labels and everything out of the mouth.

Keep and use your own drinking glass.

Do not kiss a patient.

Wash hands often and always before eating.

Keep out-of-doors as much as possible and always sleep with window open.

Do not touch face or head after handling a patient before hands are washed.

Do not allow patient to cough or sneeze in your face.

Do not allow patient to touch your face.

Do not eat anything that a patient may wish to give you.

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If taking a drink or lunch, be sure to use the nurses' dishes.

Put on gown or change uniform when going into ward.

On leaving ward always wash hands.

Always remember that infectious diseases are taken and carried by *contact* and not by air infection.

Like operating room work, this technic must be practised until it becomes a habit before anyone can be sure that she will not make a break. In hospitals, any nurse who is heedless or habitually careless is dismissed as unsafe.

At the Pasteur Institute, where this technic was first worked out, the cross infections occurring in five years time, with five thousand cases, did not attain a total of two in one thousand, or two-tenths of one per cent. At Providence, the proportion has been higher, but is considered largely due to faulty diagnosis. In all hospitals which use the *aseptic nursing*, cross infections are uncommon, while in those which use the older methods, they are all too common. In the recent investigation of some of the public institutions of New York City we find excellent examples

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of what ordinary care and precaution does *not* do.

In private nursing, the nurse rarely sees a contagious case until the disease is well under way. Sometimes her duty is practically nothing but the maintenance of quarantine and watching for complications.

If she is asked to help decide upon the room to be used as a sick-room in a private house, she should consider that the time it is occupied may be six weeks at least, and endeavor to secure not only a sunny, well-ventilated room for her patient, but one which will disarrange as little as possible the routine of the rest of the family. It should be near the bath room, and have running water available if possible.

All hangings, rugs, and every article which can be dispensed with should be removed from the room. One or two wash basins, brushes for the hands, and antiseptic solution should be provided. Gowns should be had for the doctor and for parents or relatives who are to be allowed to enter the room. It should be impressed upon parents that for the sake of other children in the family it is best that they do not touch

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the patient while in the room. If this rule must be broken, thorough disinfection by scrubbing must be enforced.

Dry sweeping should not be done, but tea-leaves, bits of dampened newspaper, or a damp cloth over a broom should be used. The patient's dishes and utensils should not leave the room unless they can be boiled before anyone but the nurse touches them. Food may be brought to the door of the room and transferred to dishes held in the nurse's hands. Broken food and waste may be deposited by the nurse upon a newspaper or in a paper bag just outside the door of the sick-room; this may be burned by anyone who is careful to handle only the outside of the package. The water in which the patient's dishes are washed should be thrown into the water-closet bowl in the bath-room, care being taken not to slop it nor to touch anything in the room. If water from hand-washing must be disposed of in the same way, one should be sure that the container does not come into contact with anything.

The nurse should keep her street costume in another room. It is usually most con-

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venient for her to wear an ordinary uniform, leaving it just inside the patient's room when she goes out. She should remain in the room while on duty and have supplies brought to the door for her. It is usually more convenient for her meals to be sent up to her. It is probably wiser if she wears a cap which entirely covers her hair.

She must never forget her technic, especially the washing of her hands after any service for the patient and before eating. She should get out-of-doors for a while each day and remain in the fresh air as long as she can. Since most of the communicable diseases are spread by the nasal and throat secretions, most doctors advocate the use of a gargle or throat spray by the nurse as a precaution. Some of the more advanced thinkers believe however that all such practices produce more or less irritation which affords a soil for the development of germs and thus defeats its own object.

Mumps, or parotitis, is an inflammation of the salivary glands. The period of incubation is two or three weeks. It occurs in epidemics most frequently in cold weather. It is characterized by pain in the parotid

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gland, swelling and in the severer cases by fever, chilling, or pain in the joints. The temperature may go to 104° . There is a peculiar sensitiveness to acid articles of food. The diet must usually be soft on account of the swelling and because of the temperature. The duration of the disease is five to ten days.

Measles is an eruptive disease which is highly contagious. The mode of transmission is unknown. A second attack may occur. The period of incubation is ten to fourteen days. The eruption appears about the fourth day. Desquamation may take place in about two weeks. There are symptoms like a severe cold, and the temperature may rise to 105° . The child may be fretful or drowsy. The eyes are sensitive to light and should be shielded. The diet should be largely liquid, with plenty of milk. Complications of the eye, ear, pharynx and glands may occur. Inflamed glands sometimes become the seat of future tubercular trouble. The skin should be anointed with oil or vaseline. Baths may be given to reduce the temperature.

Chicken-pox, or varicella, is an eruptive,

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infectious disease, the eruption appearing on the first day of the disease. The period of incubation is ten to fifteen days. The rash appears first upon the face and scalp and spreads later to the rest of the body. Smallpox may be mistaken for chicken-pox. There may be fever, chilling, or nausea. There is usually considerable itching, which may be relieved by the use of oil or vaseline. The acute stage of the disease commonly lasts but a few days.

Whooping-cough, or pertussis, is most common in children under ten years of age, less common in babies, and may occur in adults. The period of incubation is about ten days. The mode of transmission is not certain, but is probably through the throat secretions. There is an inflammation of the larynx, trachea and larger bronchial tubes.

The first stage of the disease is catarrhal and lasts about ten days. The second stage is that of the paroxysms of coughing. This is marked by a series of short coughs followed by one or more whoops; mucus is expelled and frequently the contents of the stomach are vomited. The hard paroxysms

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leave the child in an exhausted state and the loss of food by vomiting lowers the vitality. This stage lasts two weeks or longer. The stage of decline of the disease marks a gradual return to health.

The nursing treatment includes arranging for plenty of fresh air for the patient, and for frequent feedings of small quantities of nourishing food. Food is more likely to be retained if given after a coughing spell. Medicated inhalations are sometimes ordered to relieve the paroxysms.

Diphtheria is more common in children under ten years of age than in those older. Adenoids, enlarged tonsils and catarrhal conditions are things which favor contraction of the disease. It is an inflammatory infection of the mucous membrane of the nose, throat or larynx, caused by a specific bacillus. The germ may be carried in milk, almost never in water, but is usually acquired by direct contact with a person affected. There are, however, many apparently healthy persons who are "carriers" of this disease, who have the bacillus in their mouths or throats in considerable numbers and yet show no symptoms of the

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trouble. The period of incubation is about a week. One attack renders a patient more liable to a second.

The membrane of the throat or diseased surface is thickened and white, later becoming gray. The breath is fetid; there is fever, but not ordinarily very high. In severe cases there may be extreme restlessness or marked apathy. Delirious patients should be restrained lest they overtax the heart. The pulse is often rapid and weak and heart complications should be watched for throughout the disease. There may be albumen in the urine and nephritis may be a sequel of the disease.

The one curative treatment is the use of antitoxin. There should be no question raised as to the propriety of giving it. An eruption sometimes follows its use, but it is not of consequence. Gargles, sprays, swabbings, and irrigation of the nose are commonly ordered as a matter of cleanliness and control of extension of the disease. Small ice bags may be used at each side of the throat, or an ice collar. The diet should be liquid, and nourishment should be given at least every two hours. In the

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laryngeal cases, the croup tent or calomel fumes may be employed. Paralysis of the soft palate may occur, being recognized by regurgitation of food through the nose; the physician should of course be promptly informed of such an occurrence. Persistent bleeding from the nose may occur, even so severe as to make it necessary to pack the nostrils. In these cases the patient needs careful watching so that he does not start the trouble a second time.

The nurse who has charge of a diphtheria case is usually given one or more doses of antitoxin as a preventive measure. She should not hesitate to take this if her physician advises it, but if her technic is perfect, there should be no need of it. She should avoid danger from the so-called "droplet" infection, specks of nasal or throat secretion thrown off during coughing, etc. This is a very real danger.

Scarlet Fever is characterized by a rash or blush which appears first on the chest and spreads to the rest of the body, also by throat and nose symptoms much like a common cold. The rash fades in about a week, and desquamation begins, lasting two

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to six weeks or even longer. There is fever, its height indicating the severity of the disease. There may be nausea, vomiting, in severe cases prostration and stupor, or delirium or convulsions.

The incubation period is short, one to three days. Infection usually occurs directly by contact with a person having the disease, or with nasal or throat discharges. Some epidemics are thought to have been due to infected milk. There is some reason to believe that the urine or feces may be sources of infection. The idea that the disease was transmitted by means of clothing or that the flakes of skin from the desquamation were a source of the disease has now been abandoned. Children are allowed to mingle with other children while they are still "peeling" provided all other symptoms have subsided, and no cases are traced to this practice.

Complications are common and the nurse should have these very much in mind. Mild cases are as liable to serious complications as are the more severe ones, and should be carefully observed for a period of at least six weeks. The sudden disappear-

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ance of the rash may be indicative of heart or lung difficulties. Any irregularity in pulse should be detected promptly, and any muscular rigidity or spinal symptoms. Any indication of bronchitis or pneumonia should be noted and reported. The slightest pain in the ear or mastoid region, any discharge from the ear, or the least dulness in hearing should be considered a matter of moment.

The nursing treatment is not unlike that of measles. Baths may be given for the reduction of high temperature, or an ice bag over the heart may be used. The diet should be liquid, usually including a certain amount of milk. Meat broths are usually forbidden, and should not be given unless by special order. The child should be guarded from overexertion, as the heart is commonly involved.

One of the gravest dangers is from the development of nephritis. This is a very common complication, even in light cases. The physician will usually require a daily specimen of urine, or the nurse may be asked to test for albumen by the heat-and-nitric-acid test.

Desquamation may be troublesome. Dur-

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ing this stage, the skin may be well anointed with vaseline, albolene or olive oil.

The Close of a Contagious Case. When the patient is pronounced by the doctor ready to be dismissed from quarantine, he should be given a tub bath with soap and water, and a thorough shampoo. A disinfecting liquid soap is best for this. After the bath, he should step into a clean room and dress in fresh clean clothing which has not been in the sick-room.

The tub in which the patient had his bath should be well scrubbed and may be washed with a disinfecting solution. All linen, towels, and clothing which is in his room should be boiled or well soaked in a disinfectant. All utensils which can possibly be boiled should be, also any toys or articles which the patient has handled. The bedstead should be scrubbed with soap and water, also the walls and windows. The furniture may be wiped with a damp cloth. Remember that probably there is no real infection of the furniture except the bed and the bedside table, if one has been used.

If the physician advises it, or the family

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wish it, a fumigation may be done, though the best authorities consider it useless. In any event, the nurse should do her cleaning as carefully as if there were to be no fumigation. The easiest and probably the best method of fumigation is the so-called "sheet" method with formaldehyde. Bedding which cannot be washed should be spread out loosely over chairs, the mattress placed so that the vapor can get at all sides of it, dresser drawers opened, etc. A sheet saturated with liquid formalin, a pint to each 1000 cubic feet of air space in the room, should be hung on an improvised line in the middle of the room, and the doors and windows being tightly closed, left for twelve hours or thereabout.

After fumigation, or in any case, the room should be well aired and sunned. The mattress and pillows should be put out of doors in the sun and air and turned frequently. Any toys or other articles which cannot be properly cleansed are best burned.

After the nurse has finished the cleaning up of the room—and it should be remembered that this is her work—she should

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take a thorough bath and shampoo and dress herself in entirely fresh clothing. It is wise for her not to take surgical or maternity cases soon after nursing a contagious case, but she may go to other medical cases if she has given herself a proper cleansing.

PART X

Other Diseased Conditions

SKIN DISEASES are quite common among infants and young children, due probably to the fact that their skins are delicate and easily irritated, any irritation affording a soil for the development of disease. For example, a strong soap may cause an irritation of the skin and the irritation develop into some chronic trouble. The groins, the creases under the arms and the folds behind the ears should receive particular attention. Unclean or damp diapers cause chafing and sometimes soreness, which if neglected may become true eczema. Indigestion and acid urine may irritate the buttocks or vulva; plenty of water to drink, regulation of the digestion and attention to the local condition are then necessary.

The heads of infants frequently present a yellowish crust, which is doubtless due to lack of cleanliness; this should be well anointed with olive oil or albolene, allowed to remain for some time, and the crust carefully and thoroughly removed. When the

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child goes to school, he may acquire pediculi from other children, causing a diseased condition of the skin. The remedy for pediculi is tincture of larkspur gently rubbed into the hair, as one uses a hair tonic, the head being wrapped in a towel for some hours or over night. This treatment does not kill the nits, and a second or third application will probably be necessary, but it is cleaner and easier to apply than kerosene or other remedies.

Some foods are thought to cause eruptive diseases, and there are children, as there are grown persons, especially susceptible to these irritations.

Scabies, the itch, is due to a small parasitic animal which burrows in the skin. The condition is highly contagious. The cure for it is sulphur ointment, which is effective after a few applications.

Urticaria, nettle rash, is due directly to indigestion or some especially irritating article of diet. Strawberries, fish, pork, etc., are said to cause it. The chief treatment is the removal of the offending substance from the alimentary tract by the use of a laxative. To relieve the intense itching, dilute ammo-

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nia or vinegar may be used, or a solution of baking soda.

Eczema in young children is an accompaniment of digestive disturbances, and cannot be satisfactorily treated except by a physician who will regulate the child's diet most carefully. A diet containing too high a percentage of fats, starches and proteids is said to favor the development of the disease.

In addition to the regulation of diet, some external application will be necessary, usually ointment of some sort. This must be used generously and will have to be kept on by some sort of a bandage. If the eruption is on the head, a cotton cap or bonnet may be used; if on the face, a mask with holes for eyes, nose and mouth may be sewed into the bonnet. The extremities are easily bandaged with a roller of gauze. If the eruption is on the body, old shirts may be used over the ointment, and they should not be laundered, only aired. No bathing should be done, except the little which is absolutely necessary for cleanliness, as water only aggravates the trouble. If soap is needed, tar soap is best.

The child should be kept from scratching

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the affected parts or healing cannot take place. This is difficult, and may even seem cruel, but the rapid healing which takes place when the surfaces are let alone very quickly justifies any restraint which may be necessary. With babies, the hands may be pinned into the sleeves and the sleeves fastened away from the face by pinning them with large safety pins put through the dress into the diaper. Splints of pasteboard or celluloid, padded and put around the elbow are also used. Older children may have the hands fastened behind them with soft bandages, great care being exercised not to get them too tight. At the Infants' Hospital, Boston, a long tube of soft muslin is used, the baby's hands put one in each end, the end pinned to each sleeve, thus covering the hand completely. The central portion of the restraint is then fastened loosely to the side of the crib. By this method the child gets proper muscular exercise, yet the hands are kept away from the face.

SURGICAL CASES

Much surgery is now done among children and the results are ordinarily good. The

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care after operation is not essentially different from that accorded adults, except as the cases themselves differ. Children usually make rapid recoveries from operation, partly, it may be, because they are better patients than adults.

Adenoids are fungous growths found in the back of the nose. They interfere with breathing, render the mucous membrane susceptible to disease and provide a lodging place for germs of all sorts. Adenoids are sometimes the cause of digestive disturbances, and cases of mental and even moral deficiency have been traced directly to them. If not removed, they frequently atrophy and disappear by about the twelfth year, so that very few adults are troubled with them. Meantime, however, they have done much direct damage to the child's general health, made him an easy victim to contagious diseases, and laid the foundation for permanent ailments. For these reasons, they should be removed as early as discovered. If the operation is not thoroughly done, it may fail of its effect or even seem to stimulate the adenoid growth and will have to be re-

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peated. In an occasional case, they recur even after the most radical removal.

There is no preparation for the operation, except to see that no solid food is taken for a few hours before. Both anesthetic and operation are short and recovery is rapid. The child may be kept in bed the day of the operation, but is allowed to be up the second day, and usually does not complain after that. Liquid food is allowed the first day, or even a full meal after twelve hours.

Very often a quantity of blood is swallowed during the operation and vomited afterward. If the pulse becomes weak or the child has a marked pallor, the physician should be summoned at once, as a continuous hemorrhage may be taking place. The operation is usually considered to be without danger, but in occasional cases a fatal hemorrhage has taken place.

Tonsillotomy—Diseased tonsils afford good soil for pathogenic germs and an entrance to the body for many diseases. They may be the seat of an infection which results in rheumatism and ends with heart complications. Enlarged tonsils, which usually means diseased tonsils, are quite common.

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If the case is an aggravated one, and some general infection has occurred, it may take a long time to get a child into condition to take an anesthetic and have them removed.

There is practically no preparation for the operation. It is well to be assured that the bowels have moved well within the last twelve hours, and that no solid food has been taken for a few hours previous. The operation, like that for adenoids, is a bloody one, and considerable blood is apt to be swallowed. The child must be watched carefully for some hours after operation, as serious or even fatal hemorrhages have occurred. In most instances recovery is rapid and the child may be up within the day. The appearance of any bright red blood, or any weakness in pulse, or marked pallor, should be taken as danger signals. Food should be liquid or semi-solid for a day or two, and preferably cold. Milk, ice cream, etc., are usually acceptable. If there is difficulty in swallowing, the physician should be notified. Solid food may be given upon the doctor's order.

Harelip and Cleft Palate—Plastic operations for the remedying of these defects are

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frequently done and in the hands of a specialist produce excellent results. It is rare that a combination of the two defects can be remedied in one operation, and even a third may have to be done. It is usually advised that operation be undertaken during the first few months of life, though it may be delayed if there is reason for so doing.

Food should be withheld for four hours before operation, if possible, though water may be given with the consent of the surgeon. The child's face should be thoroughly washed, and the inside of the mouth and nose cleansed with soft cotton sponges and an antiseptic spray used. An older child should have the teeth well brushed and the nose sprayed. Surgical cleanliness is not, of course, possible, but ordinary cleanliness should be secured.

After the operation, great care must be taken not to pull out the stitches nor allow them to become loosened. Those inside the mouth are most difficult to watch. Food should be given neither very hot nor very cold. It should be given by means of a spoon or medicine dropper, not from a bottle. It is possible in some cases to feed a

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baby from a bottle properly held (with the baby lying on its face), but it is not advisable to run the risk. The surgeon will usually state just how he wishes the feeding done and what the food is to be. Obviously only soft or liquid food should be given until the edges begin to unite. The mouth must be kept clean as best it may, and the procedure must be done by sight, so that the stitches shall not be disturbed. For the external stitches, some surgeons use a dressing, some leave the wound entirely uncovered. In either case, care must be exercised in washing the child's face, that one does not pull the skin of the lip and so cause separation. The face should be rubbed toward the nose, never away from it.

Eye Operations need practically no preparation. The face should be washed, especial attention being given to the part around the eyes. If the surgeon so orders, the eye may be gently washed out with boric solution at blood heat. Some surgeons may order a compress wet with boric solution placed over the eye and fastened on with a roller bandage.

Eye cases require little after attention,

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either from nurse or surgeon. If the eyes are bandaged, the child must be amused or kept busy at something.

Mastoiditis is an inflammatory condition of the cells of the mastoid bone, just behind the ear. It is usually connected with middle ear trouble (otitis media), and is a dangerous condition. It may terminate in permanent loss of hearing, or the infection may burrow inward to the brain, resulting in meningitis. For this reason, any complaint of pain in the ear or the region just back of it should be given strict attention.

Mastoiditis may be treated with hot fomentations, irrigation of the ear with boric solution as hot as can be borne (using a fountain bag hung very low), or leeches may be applied. In some instances Nature responds to this sort of treatment and takes care of the infection, but in many instances an apparent cure is followed later by a severe attack. If the case is true mastoiditis, operation is usually necessary in the end, and must be done by a specialist.

Before operation, the child is fed carefully as for any case where an anesthetic is to be given. The hair must be shaved for some

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distance back of and above the ear, and the surrounding parts well scrubbed with soap and water. If the part is so sensitive that this cannot be properly done, it may be postponed until the child is under the anesthetic. The ear should also be cleansed, the folds well scrubbed and the canal irrigated.

After operation there is usually great relief. Any return of pain should be at once reported, as it is a serious symptom. For dressing these cases there will be needed small scissors, slender forceps, a small probe, a small glass syringe, very narrow packing (iodoform or plain), and a kidney-shaped basin.

Talipes, or clubfoot, can nowadays be corrected very satisfactorily, often without operation, if the case is taken care of early. The nurse who comes into contact with a case of the sort should do all in her power to have a specialist seen without delay and treatment promptly begun. She should also impress upon the parents the importance of carrying out faithfully and persistently the after treatment, since much depends upon this. These cases are apt to be long, but the results are most satisfactory.

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In cases which are corrected without operation, the feet are strapped with adhesive and bandaged, or plaster casts are put on. If an operation is done, the dislocated bones are wrenched into place, and sometimes it is found necessary to cut some of the tendons. After either operation or manipulation, there is a good deal of pain, so that an anodyne may have to be given. If the child is unable to sleep at night on account of pain, the physician should be informed. Children bear pain much better than adults and usually sleep in spite of it. The nurse may know, therefore, that when a child is wakeful from pain or cannot be amused because of it, it is very intense and demands relief.

A child who has been operated for talipes must usually be off his feet for some time, and must frequently wear braces for months. It is very necessary that these braces be properly adjusted and worn as ordered, if good results are to be obtained.

For a dressing following a clubfoot operation, there will be needed sheet cotton, gauze bandages, plaster bandages of the proper width, a knife for cutting the cast, vinegar

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or other means of softening the plaster; in short, whatever the surgeon is accustomed to use in taking off and putting on a plaster cast.

Abdominal Operations—The most common abdominal trouble in children which necessitates surgery is appendicitis. Intestinal obstruction may also necessitate an abdominal operation.

The usual symptoms of appendicitis in children are: Rigidity of the abdominal muscles, abdominal pain and tenderness, normal or low temperature, rapid, thready pulse; there may be vomiting and thirst. The child usually lies on his back with the right leg drawn up.

If the case is treated without operation, the child must be kept in bed and no food given. Water may be given freely if there is not too much vomiting. Hot applications may be ordered to the abdomen, or an ice bag. Strict obedience to orders must be enforced, and parents should be informed that any transgression may cost a life.

The only curative treatment known for appendicitis is operation. The technic is the same in children as in adults. In serious

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cases careful watching is needed for the first day or two, but ordinarily recovery is very rapid. If an abscess is found and drainage must be used, the outside dressings may need frequent changing and the case will be a tedious one; but the child is usually allowed to be up in a short time, as if there were no drainage.

Cases of intestinal obstruction which require operation are always serious, as they must be done with the patient in poor condition. Recovery is usually rapid, however.

PART XI

Nervous Conditions and Diseases of the Nervous System

CHILDREN have a very delicately balanced nervous system, a fact all too little regarded by parents, teachers and nurses. Seemingly small causes may produce grave results, and these results vary all the way from simple nervousness to the most critical nervous diseases. Heredity is doubtless responsible for a good deal in these troubles, but environment is after all the more powerful in the majority of cases.

If a child is nervous, in the popular sense of the term, it is important to find out the cause. This is unquestionably the physician's province, but he must be assisted in it largely by the nurse.

Some nervous conditions are inherited; this inheritance may be the result of bad physical or mental habits or lack of self-control along any line. Inherited or acquired syphilis often has a degenerative effect upon the child's nervous system.

A diseased condition of the eyes will pro-

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duce nervousness in a child. Or the trouble may be a sequence of earlier diseases, fevers, contagious diseases, nephritis, rheumatism or early malnutrition, or even overexposure to extremes of heat or cold. A child who is in school may break down nervously from the forcing system employed at school, or from worry for fear he may not "pass."

A child born with perfectly steady nerves may become a nervous wreck simply by living with persons who lack self-control. Or the foundation of the trouble may lie in the child's treatment during the first few weeks or months of life. Unnecessary handling, rocking, "showing off" or much talking to may, any or all, be responsible for the development of nervousness. Forcing a child's mental processes in any way is harmful; it may be done in attempts to make the child talk or express himself in other ways, by too long or too early stories, too early study, etc. A child's animal existence should be made the chief concern for as many years as need be to establish perfect health. The mental development will usually take care of itself, and even if a trifle late may be only the more vigorous therefor.

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Probably one of the most important principles in the treatment of nervous children is that they should not, under any circumstances, hear a hint of the fact that they are nervous. It takes a surprisingly short time for a child to learn to demand sympathy for trifling ailments or for "nerves," and the results are most disastrous. Even real illness should be made as little of as is consistent with proper care.

The nurse who does not honestly love children and to a degree understand them, should not undertake the care or nursing of a nervous child. She must be able to enter into his plays, to exercise great patience and gentleness. High-strung children respond beautifully to real sympathy and love, and develop charm and sweetness of character under the right treatment. Suggestion, always positive in character, can be used to great advantage.

For a child who has uncontrollable fits of temper there is little to be done at the time, except to keep him from injuring brother, sister or playmate, restraining him forcibly if necessary. When the paroxysm of anger is over, and he is ready to sit in your lap

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(you must not be too starchy and immaculate to be inviting), have a little heart-to-heart talk, telling him gently how ugly the whole thing is. Try to arouse in him a wish to get the better of these spells. If the little talks do not help as much as could be desired, try letting him alone after he has been naughty. Do not play with or talk to him. The average child will feel this treatment keenly, understand it and in a short time say he is sorry.

There are many stories which may be read to a child to help to create in him a desire to rule himself. The "Little Colonel" series is excellent. "The Twins and Why," by Thompson, is also good. The librarian of your public library will suggest others. Much patience and some wisdom must be exercised by the nurse if she is really to help a nervous child to recover.

Diet is of paramount importance in the care of nervous children. The doctor's orders are to be followed carefully, to be sure, but often those orders are simply, "Feed him carefully." Children whose nutrition is not good sometimes need as many as five meals a day. They must be

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simple and should be served at regular hours. The diet which gives energy and endurance is chiefly meat, eggs and milk. Upon these articles as a foundation many variations may be built up. A good cook book and a little ingenuity will do much. There are all sorts of egg and milk dishes to be made, and even such simple things as milk toast, bread and milk, egg-nog, oyster soup, etc., are frequently acceptable. Children do not demand the variety which grown persons do. Green vegetables are always allowable and help out a great deal; they give variety and are in themselves wholesome and desirable.

Daily Routine is of special value in nervous cases. Meals at regular hours, a special time for a nap, a certain number of hours out-of-doors, and an exact bedtime are really easier as well as better than haphazard planning.

The daily cool sponge bath should be given in the morning before breakfast. If the child chills or complains of the cold water, it may be made tepid, care being taken that the invigorating effect is not lost. If the child objects to baths, find out what

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the reason is and take steps to overcome it. Toy boats to be sailed while the bath goes on, stories of naval battles with the toys for illustrations for boys, or tales of ocean trips for the girls, or any play which can be connected with the bath, will make the child help to forget that he is doing a duty, and it may become a pleasure.

Out-of-doors must be made interesting, so that the child will want to be out pretty constantly. A little garden can be made a source of the purest pleasure; it matters very little whether flowers or vegetables be grown. Flowers may be examined and their names learned. Trees may be studied. Most children, except very tiny ones, find great interest in the habits of birds. A gentle horse is a godsend. A tent to play house in, a swing for repeated short pastime, or other simple and not too strenuous apparatus should be provided. The right sort of playmates are the best of all. If the nurse is not familiar with out-of-door life, this will be an excellent time for her to gain some valuable information. There are so many books to be had which help one to know about outdoor things, and some one can

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always be found, by searching, who knows Nature's ways. The education afforded by these things is worth something, the health gained more.

Modern modes of living tend to muscular degeneration, both in young and old. The city child has not a chance for proper play, and tends always to flabby muscle, flat chest and general poor development; this physical condition relaxes the will power, and tends to nervousness and lack of self-control. Frequently the solution of the difficulty lies in a good gymnasium and a skilled trainer. The desire to keep up to the class standard in physique, the wish to do a certain "stunt," the delight of contest in a game, or the joy of team play, should all be considered, and the child given his chance at them. A proper course in physical training, bringing the boy or girl to proper symmetry of body, a quickened brain and a stimulated will power, invariably means resistance to disease and the decrease of nervousness.

Nervous conditions manifest themselves in many very definite ways, and each must be dealt with in a particular fashion.

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Nightmare is persistent in some children. It may take the form of a vague dream of some evil influence which pursues, or may be something more defined, the child waking in terror and being hard to reassure of the unreality of his experience. Diligent search should be made for the underlying cause of this trouble. It may be due to disturbed digestion from heavy food, to malnutrition, to adenoids, to enlarged tonsils, or may even be an accompaniment of epilepsy. These cases tend to recover, but everything should be done to hasten the work.

Hysteria is not uncommon in children, and is not to be neglected. Mobius defines it as "a state in which ideas control the body and produce morbid changes in its functions." In children it may be due to bad inheritance, faulty education, mental shock, or an injury of some sort. It may be due to attempting to frighten a child into obedience, and he may never be able to entirely overcome some manifestation of it.

Treatment is mainly mental, with special attention given to the correction of any accompanying physical ills. A change of environment and contact with a new set of

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people often does wonders. For serious cases, it may be necessary to consult a nerve specialist.

Chorea, or St. Vitus' dance, is a condition characterized by local or general involuntary and irregular twitching of the muscles or by incoordinate movements. It may follow any period of depressed vitality, may be due to heredity, to fright, worry, an injury, excitement, etc. It occurs most commonly between the ages of six and sixteen. The attacks may vary all the way from those which involve one limb to those in which the face, all the limbs and practically the whole body is affected. These patients are very sensitive and the movements become more pronounced when they are observed. Voluntary movements are uncertain and jerky, and the patient may be unable to hold things securely in his hand. The speech may be affected. Lack of concentration and irritability of temper are characteristic. The more severe the case the greater will be the mental disturbance. In some instances the movements continue during sleep. In extreme cases, the pulse may be weak and rapid, and there may be some danger of paralysis.

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These cases may last a few weeks or a few months. They tend always to recover. Real consideration, proper and happy environment are the most important factors in the treatment. Nutritious food, moderate exercise and an outdoor life are necessary. As little notice as possible should be taken of the nervous manifestations.

Convulsions in young children may or may not indicate a serious condition. They are not uncommon, and may be mild or severe. In the mild cases there is rigidity and spasm of the hand or face, rolling of the eyes, and it is over. In the severer cases, there are marked convulsive movements, twitchings or jerkings, blueness of the lips, impaired respiration, rapid pulse and unconsciousness. Frothing at the mouth may occur. After several minutes the twitchings may cease and the child remain unconscious. The convulsion may recur after several hours.

One should endeavor, if possible, to ascertain from a physician the cause of convulsions in any given case, and institute treatment for its removal. The condition may be due to heredity, or it may follow a shock

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or almost any illness. In quite young children it may be assigned to teething, which usually means digestive disturbance.

Treatment must be immediate. A hot mustard bath can be quickly prepared, the temperature being only what may be borne by the back of the hand, and the child placed in it without even troubling to remove clothing. The warmth usually relaxes the spasm. A spoon handle, wrapped in a clean handkerchief, or a soft towel folded several times, may be slipped between the child's teeth to prevent him biting his tongue. If a hot tub bath is not practical, a hot pack may be given with equally good results. A doctor should in most cases be sent for if the attack is severe or continues more than a few minutes. He will direct in regard to any sedatives which may be given. Chloroform may be given for the attack under his direction, but great care should, of course, be exercised.

After the attack, it is wise to give a dose of castor oil, and a thorough enema of salt solution. Special attention should be paid to the diet. The child should be kept quiet for some time.

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Epilepsy is a nervous disorder which usually develops in childhood. The attacks may resemble convulsions; they are usually preceded by a peculiar sensation which is termed an *aura*, and are commonly accompanied by a characteristic cry.

Epilepsy in children is almost invariably the result of a bad heredity. It may be due to nervous disease in the parents, to tuberculosis, to syphilis, alcoholism, etc. Any shock or excitement may bring on an attack, but sometimes there appears to be no immediate cause. There is no bright outlook for these cases, as they tend to grow worse. As the disease progresses the mind weakens. If there are no attacks for two years, some hope of cure may be held out.

The care consists in keeping up the nutrition and improving the general health. All causes of irritation to the nervous system should be removed. Outdoor life is to be preferred, and some light and pleasant employment. These children frequently do well in an institution especially designed for their care. They cannot be expected to get on in the ordinary school.

During the actual attack, there is little to

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do except to see that the patient does not injure himself by falling or in any other way. He should be placed in bed if convenient, or in a comfortable place until he recovers.

No cure has been found for epilepsy. Experiments are being made with a serum prepared from rattlesnake poison, and it has seemed to be successful in some cases.

A certain number of cases of epilepsy are due to injuries of the head, usually to a fracture of the skull which causes pressure on the brain. These cases are usually cured by operation.

Feeble-minded children are being studied very carefully of late. They are a pitiful illustration of the sins and weaknesses of the parents being visited upon the children. Some cases are apparently due to injuries to the pregnant mother or to some diseased condition during pregnancy. The condition is frequently laid to marriage with one near of kin, but the explanation of this probably lies in the doubling or accentuating of a similar weakness or mental trait in both parents.

Three classes of the feeble-minded are now recognized—idiots, imbeciles and morons.

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Idiots are those whose mental development does not go farther than that of a child a few years old; they require constant physical care and cannot be taught to do anything of consequence. They are most appropriately cared for in institutions devoted to such cases, as they are always a burden to their families. Their outlook is very discouraging.

Imbeciles are those whose mental development attains to that of a child seven or eight years old, but never goes much beyond that. They respond to teaching, but it must be carefully done, and by one who is familiar with such cases, if good results are to be had. These persons may be taught to be partially or wholly self-sustaining if instructed in simple manual labor, and may even learn the rudiments of school education. They may do well in music and in some of the arts.

The early life of such children is best spent in an institution where they may be properly taught and where they are not discouraged by constant contrast with normal children. Later they may take their place in the home, if their families and friends are at

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the same time taught not to expect too much of them. They should not be allowed to marry.

Morons are high-grade defectives, who are often difficult to distinguish from normal persons. In this class come the so-called "backward" children and persons who lack in judgment, in ability to get on, etc. They need special care and attention, but are not apt to get it unless their deficiency is recognized. Some test should be applied in order to discover the degree of deficiency. The Binet tests are the best known and are interesting for a nurse to inform herself about.

But a few years ago all mental defectives were considered discouraging cases. Now, their care and training has been given more attention, and wonderful results have been obtained in the education of those thought to be hopeless. A nurse who meets with a child who is plainly feeble-minded or whom she suspects of a mental deficiency, should do all that she can to have the child taken to a specialist for examination. If the defect is at all marked, she should urge that the child be sent to an institution where he may have the training needed for his development.

PART XII
Clothing

CLOTHING may make or mar a child's comfort quite as much as it does a grown person's. Scientists have recognized the fact that a man does not do his best work unless he is properly and comfortably clothed, and that discomfort in clothing, even if unrecognized by the wearer, may produce nerve strain and cause a very definite waste of vital force.

There are principles underlying proper clothing of children quite as important and quite as definite as those governing their feeding. One needs, also, a certain amount of common sense exercised in the matter and enough imagination to realize how one might feel oneself under similar circumstances. Children are like grown people in some respects, in others radically different, and this must be taken account of in clothing them.

Children are very active when awake and very quiet when asleep. Their circulation is usually good and their skin action vigor-

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ous. They therefore perspire easily and chill readily. For this reason, the exact amount of clothing which they have on is more important than it is for a grown person. Too much or too little are more serious matters than with adults. Their heat radiation is rapid, but they become overheated somewhat more readily than adults do.

The first and most important principle is to *clothe all portions of the body evenly*. No doubt most of the errors in clothing are due to neglect of this principle. It is very common to see children clothed so heavily in one part of the body as to cause almost constant perspiration and consequent chilling, while another part is left exposed. Some of the ideas about "hardening" children have rather disastrous results. Imagine yourself dressed after the fashion of the average child, your chest and arms loaded with wraps hot and cumbersome, while your legs were exposed nearly to the knee or clad in but one thickness or, rather, thinness of material. With little girls, the cold air usually has access halfway up the thigh.

The chest and abdomen, since they contain the vital organs, should doubtless be the

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best protected parts of the body, but one additional thickness is all that is needed for them. This is usually supplied by the shirt. Outside that, clothe the entire body evenly with as many layers as the temperature demands. The entire body should mean up to the neck and to below the elbows and knees in warm weather; in cold weather, a few inches further in each locality.

At the Massachusetts General Hospital, in the children's department of the outpatient clinic, there is hung a sign for the mothers: "Dress your baby according to the weather, not according to the season." It is well, also, to remember that in city life and in school the room temperature is that of summer heat. Children in steam-heated, closed-up rooms should, therefore, be clothed rather thinly, but should be supplied with abundant long wraps when they go out into the cold. Country houses, the homes of the poor, or outdoor schools, are quite another matter. Some allowance should also be made for the fact that children will run out-of-doors without stopping for wraps; but in this connection one may save themselves some worry if one remembers that children

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are apt to indulge in violent exercise when out-of-doors, and suffer much less than an adult would under similar circumstances.

There is considerable discussion among the authorities as to what material is most suitable for the underwear of small children. The advocates of wool seem to be in the minority, for while wool is a non-conductor, it does not absorb perspiration well, and is irritating and uncomfortable to a sensitive skin. It is unobjectionable if the person wearing it finds it comfortable, but has no special advantages. Cotton is a good conductor of heat and cold, absorbs perspiration, but allows the body to cool rapidly. Linen cloth is even more objectionable than cotton. Linen mesh is, however, a non-conductor, absorbent and unirritating, and seems to be ideal for both summer and winter. Silk has similar properties, but is expensive.

Remember that an air space in clothing, as well as in buildings or refrigerators, stops the passage of either heat or cold. For this reason, several layers of thin garments are warmer than a few layers of thick ones. In summer, however, the cooling action of the

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perspiration must be taken into account and clothing furnished which will afford free circulation of air to the body.

The baby's first wardrobe has already been discussed. A small baby, living at a summer temperature most of the time, is likely to be too warmly clad. When taken out, very few persons remember to protect a baby's neck from drafts. They also forget that the eyes should be shaded from bright light; if a bonnet is worn, a parasol or cover to the baby cab must be provided. An older child may have a cap with a visor. Bear in mind that a young baby lies down and is therefore more exposed to direct light than one who is old enough to sit up. Neglect to shade a baby's eyes from glare of light is said to be responsible for some eye troubles.

The first shoes should be soft, preferably of chamois or some of the leathers which can be bought by the piece and made up at home. When the child begins to walk, a stiff-soled shoe should be provided, but it should be large and loose. Orthopedists do not agree with the popular notion that loose shoes are injurious. It is also becom-

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ing less common to insist upon shoes which "support the ankle," the modern idea being to give the ankle free play and make it strong, so that it will not need support. All orthopedists agree that high heels are bad, and that heels of any height are unnecessary, to say the least. Going barefoot is not advisable, as serious infection may be gotten in this way. Sandals protect the feet from injury pretty well and are usually comfortable for the child. There is, of course, no objection to letting a child go without shoes or stockings indoors, where there are smooth floors and soft rugs.

To be explicit—a young baby may wear indoors in hot weather only a light band and a thin napkin. In cool weather a shirt, a petticoat which covers the legs, and a slip. Out-of-doors, a long coat which comes close around the neck or, better, one which has a hood attached. The eyes should be shaded.

Little children who wear short clothes should wear closed bloomers reaching below the knee, and under-drawers to the ankle in cool weather. Coats should be as long as the child can get about in. In hot

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weather a shirt, drawers and a dress are sufficient. In very cold weather, the neck and ears may need protection when the child goes out. Little girls are more comfortable and more modest in knickerbockers than in petticoats, and most children prefer them. They may be used until the girl puts on long dresses.

The simplest and easiest rule for modifying a child's clothing to suit climate or weather is: If less is needed, remove a whole layer; if more, add a whole layer.

PART XIII

Teaching

THE nurse who has the care of children will find that a knowledge of teaching methods is not only advisable, but almost a necessity for her. Mere amusement for the sake of amusement soon bores the child, as well as the one who is attempting it, while things with a real value and a permanent interest are more eagerly received and satisfy for a longer period. The real things mean the acquiring of knowledge or of information, or the development of mental qualities. These things are all in the teacher's field.

It is becoming a not unusual thing for the tired mother or the parent who wishes a vacation not suitable for children to leave the children in the care of a trained nurse. For many reasons, nurses have been found more satisfactory than governesses, and a certain number of nurses every year find themselves with a well child on their hands.

Even in the ordinary case of illness, there is the discipline to be studied. In convales-

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cence, much real teaching may be done. There is a very definite place in the world for the nurse with teaching knowledge, and the young woman who can furnish this sort of service will find herself in demand.

It is out of the question for the nurse to take a kindergarten course or a normal school course. She may, however, spend some of her spare time, even while on a case, in reading books on teaching methods and on discipline, and in this way get hold of some of the fundamental principles which will be of great value to her. The following books will be found useful in furnishing suggestions for methods with the younger children:

“In the Child’s World.” Poulsson.

“Kindergarten Principles and Practice.”
Wiggin & Smith.

“Froebel’s Occupations.” Wiggin &
Smith.

“The Home-made Kindergarten.” Nora
A. Smith.

There have been many interesting articles in recent magazines concerning the Montessori method of teaching, and it is now being extensively introduced into this country.

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A half day's reading will serve to make the nurse familiar with the principles of this method, and her knowledge of it will make her of a good deal of value to many a busy mother. A visit to one of the Montessori schools which are being established in the larger cities is also well worth while.

Dr. Montessori is an Italian whose original research was done for the sake of feeble-minded children. She presently found that the same methods were successful with normal children in their early years.

Dr. Montessori believes in the importance of training the special senses, especially the tactile sense. She excludes as far as possible all senses but the one in hand at the time. For example, in teaching a child to note the sounds which most of us pass unheard, she blindfolds him or has several children together in a dark room, so that they shall not be distracted by other things. In her tests for touch sensations and in its teaching, she directs the blindfolded child to touch lightly the material given him, learning all that he can about it in this way. She teaches writing and drawing by having the children feel the forms; when they have

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learned them by the sense of touch it is but a step to transfer them to paper or blackboard by the same series of movements. When we consider how necessary a highly developed touch is in the finer things of life, the musician's touch, the surgeon's touch, the sculptor's, the painter's, even the work of embroidery, sewing, and many of the domestic arts, we see that her ideas are fundamental.

She applies her work and the children's knowledge to their every-day life. She would teach them to attend to their own needs. Some of the lessons are given with a view to enabling a child to dress himself and to assist the other children. By her methods the child learns to read and to write almost unconsciously, and lays the foundation for all his future work. He learns concentration of attention without fatigue. He learns to coordinate his muscular movements, which is the foundation of all physical grace and health and of all manual dexterity. He acquires very readily a general stability which ordinary teaching methods do not give.

The Montessori system advocates special

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gymnastics to develop the normal body and to correct any existing defects. A proper swing in which the child propels himself, a rubber ball suspended from the ceiling and used for games, a rope ladder, etc., are among the apparatus used. Outdoor games like the hoop, bean bag, ball, and hide-and-seek are advocated. Breathing exercises and teaching in correct enunciation are also a part of the method.

It is quite worth the while of any nurse who deals with children to read one or more books on the Montessori method, as there is much in it which is thoroughly practical.

The nurse with a convalescent or well child on her hands may find joy to herself, the child and its parents, if she takes the opportunity to teach a manual occupation. Children love to make things, and an illness will be remembered with pleasure if the child has been able to learn basketry, weaving of any sort, crocheting, wood carving, pyrography, embroidery, lettering, or any of the many useful and decorative arts which require a small amount of apparatus or material. There is hardly a nurse who does

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not know a few of these arts, and hardly a child who would not be delighted to learn one of them. When time hangs heavy, the opportunity is there.

One may even teach songs or short poems, or have the child and herself take part in a simple dialogue. All these activities are instructive as well as entertaining, and the parents will appreciate them as much as the children do.

PART XIV

Entertaining Children

A LITTLE girl, who on previous occasions had been under the care of two different nurses, was asked by her mother which of the two she preferred. She replied, "They are both nice, but I think I'd rather have Miss M., because she plays the most."

The average nurse needs to have in mind a list of things which may be done to entertain a child or which he may use to entertain himself. There is hardly a case where some sort of amusement or occupation is not demanded. In some instances the child's mind should not be stimulated, and a simple manual occupation is appropriate. In other cases, such as typhoid or some forms of heart trouble, it is unwise for the child to use his arms, but he will enjoy directing the nurse or joining in her planning, or exercising his mind to a mild degree.

Hearing stories is the one never-failing source of amusement to a child. They may be read, if one puts a proper spirit into them,

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but greater still is the joy if they can be told. There is also a distinct pedagogical value in the child's repeating stories which he has heard, and the nurse should encourage him to do it. The average child is delighted to have an appreciative audience, and he will be charmed to retail to parents or other members of the family a story which his nurse has told him. Even poems which seem a little beyond a child's intelligence are often of great interest to them. A four-year-old has been heard to lisp with the greatest pleasure part of "Blessings on thee, little man." An eight-year-old found joy in Lamb's "Tales from Shakespeare." Children are frequently as appreciative of good literature as are grown persons.

Bible stories invariably appeal to children, but one should be careful before beginning them to find out the parents' views in this matter. Some people prefer to wait for these stories until more mature years, but there are certain of the simpler tales from the Bible which any child can understand. With what breathless interest do they listen to David and Goliath, or Daniel and the lions, or Moses in the bulrushes, invariably wish-

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ing to hear them again or to repeat them themselves.

In these days of public libraries it should not be difficult for the nurse to obtain material to read or tell to a child. The librarian will invariably help one in these matters.

Remember that children love to hear their favorites over and over, long after grown persons are tired of them. If a story is to be told, the nurse should try to find in it the good, worth-while points and bring them out. For example, in "The Three Bears" and "Little Red Riding Hood," there is the thought of a good influence ever watching over the child and protecting him. In this connection, some of the old-time stories need a little reconstruction, and some, such as "Bluebeard," should be eliminated.

There are stories and poems which lose much by being told, and should be read in order to keep the very words of the author. By dwelling on certain parts of them the nurse can positively create a love for good literature, and by so doing will have laid the foundation for many happy and profitable hours in the child's life.

Making an old-fashioned scrap-book is

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ever interesting. If the child is not able to do it himself, he may enjoy directing the work, choosing the pictures and deciding where and how they shall be placed. Almost every home has old magazines containing a wealth of pictures which the child may cut out for this purpose.

Paper cutting of all sorts has great possibilities. For details, refer to some kindergarten work.

Fashion plates may be colored by pencils, crayons or water-color paints, whichever the child has or can best manage. Two-hole bone buttons fastened on figures in place of heads make very amusing combinations.

Picture post-cards, or larger pictures with a backing of cardboard, may be cut up into picture puzzles, and will while away many an hour.

Stringing beads is easy and interesting. The Hailman kindergarten beads of wood, made in cubes, cylinders, spheres, etc., are easy to handle and give training in color and form. Smaller beads may be used to make a neck string for a doll, or for mother or sister.

Large beads combined with toothpicks make excellent soldiers. In fact, tooth-

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picks are most useful by themselves and in combination with such things as raisins, figs, cherries or any small fruit.

Corn-cobs and corn-husks, burdock burrs, pine-needles, and most of the flat leaves can be made into all sorts of things.

Modeling clay all ready to mix can be purchased; with his fingers and one or two simple tools the child can spend many happy hours modeling familiar objects.

For older children the making of blue-prints from photographic plates or films is a fascinating occupation.

For the little girl of almost any age a doll is the great source of entertainment. There is no end to the plays which may be planned with a doll and a liberal amount of imagination. If she is able, any amount of sewing may be done—dresses, underwear, play clothes, aprons, hat, stockings and shoes, etc., can all be made with a little help from the nurse in planning and execution. An old scrap-bag is a veritable treasure-house. A trip may be planned and taken, using a cigar box divided into compartments for a trunk, if no better is available. Giving a

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HAPPY WITH HOME-MADE TOYS

doll party is always great fun and takes endless planning.

For a change, try making hickory nut dolls, with the face painted or drawn in pen and ink, the body being made of a little roll of cotton cloth glued to the nut. The face may be grotesque and the clothing comical. The arms are made of small rolls of cloth sewed to the body. A corn-cob, dressed in corn-husks, makes a very funny clown doll.

Paper dolls are always in order, and may be managed with less exertion to the child. Even a pretty sick child may handle them

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with ease and get a great deal of pleasure from them.

A boy will usually be interested in some sort of constructive work. He may build a house of pasteboard, using four boxes glued together or sewed. It should not be too simple, nor too small. There may be up-stairs and down-stairs, with the stairway made of folded pasteboard. A lean-to kitchen can be fastened on and a porch added in front. The exterior color can be decided by the little patient, and executed in colored paper, crayon or paint, whichever is available. The interior may be decorated and furnished. Doors and windows are cut out with a sharp knife. Curtains may be made of crepe paper or cloth. Pictures can be hung and rugs put down. Small boxes will do for furniture, or pasteboard cut, bent and sewed or tacked.

Sometimes a small boy may be interested in dressing up a teddy bear with simple clothing for which the nurse may cut a pattern and do any necessary sewing.

Either boys or girls like to make things for other people, especially if some holiday or anniversary is near. For May Day there

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are May baskets of all sorts of sizes and materials. For Valentine's Day a supply of colored cardboard, tissue paper, lace from soap or candy boxes, and colored pictures cut from old magazines will furnish the basis for valentines for all the friends of the family. If the child is old enough, the nurse may help him compose simple rhymes for the valentines.

Near Easter time eggs and egg-shells may be colored in all sorts of ways. Faces may be drawn on the shells and a bonnet of crepe paper made, with ribbon or paper for strings. Half an egg-shell can be decorated and used as a vase, being sent to a friend with a flower or a few wild violets in it.

For Christmas gifts there are endless simple things which can be made. Bright tissue papers cut with a fancy edge and mounted on a pasteboard back for shaving paper for the child's father; a holder for the mother, or a towel to be hemmed or hemstitched; a simple little apron for a sister; a pen-wiper made of several pieces of flannel, scalloped, for the brother—and so on. It may fall to the nurse to do most of the actual work on some of these things, but the happiness of

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the child in watching or directing the work will be worth while.

Children between three and six years enjoy putting things together. There are cubes in graduated sizes, which may be put inside each other, or piled up in many ways. There are cylinders in sets of ten sizes, made to fit into holes of the same size. These things give training in judging of the relative sizes of objects, and the child spends his time with them profitably.

The nurse must take care that she does not permit the child to overdo and so defeat the very object for which she is striving, the improvement of the child's physical health. A child in health cannot keep his mind and attention upon one thing very long at one time, and the child who is ill tires even more quickly. The amusements and occupations should therefore be as varied as may be, and there should be periods of as complete repose as the child's disposition will permit.

If there are other children in the family who are admitted to the sick-room, or if visitors are allowed, all sorts of games may be undertaken. A book of games may be gotten from the public library and some new

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ones learned. ("Games and Songs of American Children," by William Wells Newell is a good one.) There are many guessing games, both simple and intricate, which may be used according to the age and mental development of the child. There is the well-known "Bachelor's Kitchen" and other similar games. There is one called "My Household," which may be played by few or many, the child beginning with the verse

I had a little (lamb) and my (lamb) pleased me
I fed my little (lamb) beneath that tree,
My little (lamb) went (M-a-a).
Other folks feed their (lamb), I feed my (lamb)
too.

For each verse the children choose a different animal and in the third line imitate its cry. It becomes a noisy game, as the chorus consists of all the animals together.

If the child may go out-of-doors, there is much of interest to be found. The child may be blindfolded and all sorts of things brought to him to be guessed by smelling or feeling of them. If the ground is not too damp, the child may be lifted to a cushion placed by a sand-pile and can make all sorts of things there, houses, rivers, lakes, villages, gardens, etc.

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It is not difficult to arrange a sand-box for indoors. A shallow wooden box small enough to be propped on the bed, with a small amount of moist sand in it, will be a source of great pleasure to almost any child.

A little ingenuity, a few books from the library, and a real interest and love for children will make the nurse's task of entertainment an easy one.

A. G. L.

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