A hand-book of nursing for family and general use.

A HAND-BOOK

OF

NURSING

FOR

FAMILY AND GENERAL USE.

PUBLISHED UNDER THE DIRECTION OF THE CONNECTICUT
TRAINING-SCHOOL FOR NURSES, STATE HOSPITAL,
NEW HAVEN, CONNECTICUT.

PHILADELPHIA:
J. B. LIPPINCOTT COMPANY.
1893.

"BUT WELCOME FORTITUDE, AND PATIENT CHEER,
AND FREQUENT SIGHTS OF WHAT IS TO BE BORNE!
SUCH SIGHTS, OR WORSE, AS ARE BEFORE ME HERE,—
NOT WITHOUT HOPE WE SUFFER AND WE MOURN."

"IT IS VERY GOOD FOR STRENGTH
TO KNOW THAT SOME ONE NEEDS YOU TO BE STRONG."

INTRODUCTORY.

FROM PRESIDENT PORTER, OF YALE COLLEGE.

THIS Hand-Book of Nursing was prepared for the use of the Training-School for Nurses in the State Hospital, New Haven, Connecticut. The committee who have the oversight of this institution thought it important that a summary of practical directions should be placed in the hands of nurses, so simple as to be easily understood, and so comprehensive as to provide for the ordinary routine of duties among the sick. Though brief in language and simple in its form, it is the fruit of the experience of years in the supervision of hospital cases and duties. The position and character of the ladies who have supervised its preparation, and of the professional gentlemen who have given it their sanction, are such as to entitle it to the confidence of the public.

N. PORTER.

NEW HAVEN, May 24, 1878.

FROM PRESIDENT WOOLSEY.

HAVING heard a considerable part of the Hand-Book of Nursing read before its publication, I feel quite ready to speak a good word for it, which may accompany it when it shall go forth into the world. The object which

it has in view is one the importance of which was not duly felt until the late war, when the wants of sick and wounded soldiers prompted humane women all over the land to devote themselves to this special work of mercy. Since then their pre-eminent fitness has been abundantly manifest for acting in the family and the neighborhood, under the direction of physicians and surgeons, in the discharge of those offices which sudden accidents and general watchfulness at the sick-bed demand,—without which watchfulness many lives would be lost. The office of trained female nurses is now recognized, but besides these persons, there are women who in less responsible spheres can do a blessed work, for the performance of which, in very many cases, no one else can be found. But these gentle helpers need to have their kindness guided by simple knowledge and simple rules; otherwise they might do harm before learning to do good. It is for such as these, as well as for professed nurses, as I understand it, that this book is intended; and I cannot but believe that the instructions in this volume will prove to be means of saving many lives by qualifying those who have the nurse's first quality—sympathy—for their work.

THEODORE D. WOOLSEY.

NEW HAVEN, May 29, 1878.

CONTENTS.

PART I.

MEDICAL AND SURGICAL NURSING.

CHAPTER VIII.

PART II.

DIRECTIONS FOR MONTHLY NURSING.

CHAPTER I.

CHAPTER II.

CHAPTER III.

CHAPTER IV.

CHAPTER V.

CHAPTER VI.

PART III.

FAMILY HYGIENE.

A HAND-BOOK OF NURSING.

PART I.

MEDICAL AND SURGICAL NURSING.

CHAPTER I.

THE NURSE—THE ROOM—THE PATIENT.

THE NURSE.

A responsible person necessary.

In all cases of serious illness, whether a trained nurse can be secured or not, there must always be some one person in the family who can be responsible for the patient and to the physician. Two or three different persons taking orders and reporting symptoms will invariably make confusion and mistakes. There must be one head. Many of the following directions for a professional nurse will apply with equal force to the member of the family who stands in that relation to the patient. Want of order and common sense in a sister, wife, or daughter is even more distressing to a sick person than the same qualities in a stranger. Let whoever proposes to assume the care of a seriously sick patient read and follow the directions given to the professional nurse.

A professional nurse.

A really conscientious nurse will deal as kindly and faithfully by her poor and hospital patients as if caring for the sick in the pleasantest homes; but there are in private houses certain differences of arrangements and requirements not known in hospitals, and these must be understood.

The nurse is ordinarily called to a private family when the family are worn out and need immediate relief; for this reason she cannot expect to begin with a night's rest, though she may arrive tired with a long journey; the family are exhausted with anxiety, and she must shoulder the burden which they are too wearied to carry a moment longer. She must, therefore, at once take her official position, *not waiting to be told what to do;* but realizing that a life is intrusted to her keeping and that she alone is responsible to the physician.

Personal appearance of importance.

A pleasant personal appearance will go far toward inspiring confidence, and can be secured by extreme neatness in dress, clean handkerchiefs, collars, and stockings, spotless sleeves and aprons, and caps, and a simple arrangement of the hair. "Attention to the skin, the hands, the hair, the teeth, to the whole effect in these matters, distinguishes a lady from a slattern in appearance." Trailing skirts, flounces, hoop petticoats, frizzed and loose hair, rings, and all jewelry are out of place in a sick-room. Provide for use at night warm slippers and a *close-fitting* sack or dressing-gown, and do not bundle yourself up in a shawl, which is likely to catch in things and to do mischief.

How the hands can be kept in order.

A few drops of glycerine rubbed in at night will keep the hands smooth if care be taken to wipe them perfectly dry each time that they are put in water; hot water is thought better than warm or cold for the hands. Cultivate a light touch. A sensitive patient is often disturbed even by the weight of the hand, or by moist, clammy hands.

What will aid in making a nurse personally acceptable.

Great care in frequently changing and airing the clothing. A few drops of hartshorn in the water used for washing will remove disagreeable odors from warmth and perspiration. A daily bath will be very refreshing, and can be easily accomplished with simply a basin and towel in the following manner: wring out a rough cloth in soap and water, and rub yourself briskly from head to foot,—five minutes will suffice each day, and help in keeping you healthy, fresh, and pleasant to look at.

Never clean or pare the nails in the presence of a patient, though they must be kept scrupulously clean. Do not use an ear- or toothpick, or arrange hair-pins. Never kiss your patient. Many persons dislike to be kissed, even by intimate friends, and would endeavor to conceal the annoyance which was unconsciously inflicted.

How you should conduct yourself toward the servants of the family.

You should be careful not to cause them unnecessary trouble; acknowledge pleasantly any little service rendered, and let them feel as far as possible that you have come to share, not to increase the extra work that sick

ness always brings. Wash and return to their places the cups, plates, spoons, etc., that you use for your patient. Do not add unnecessarily to the laundry-work, either for your patient or yourself.

How you should conduct yourself toward the members of the family.

The family have a right to expect from a nurse a cheerful, helpful spirit in all things. Do not be too particular about your own dignity as a trained nurse. While carrying out all the doctor's orders and doing what is essential for your patient in the way you know to be best, there are many little things about which you should cheerfully accept suggestions from members of the family, doing them in their way. Never forget that the family have a burden of anxiety to bear when a dear friend is seriously ill that you know nothing about. Try to lighten the burden by a kind and considerate manner towards all the household. Remember that you are responsible to the family as well as to the physician whose orders you must follow.

What the understanding should be about your meals.

You should be willing to accommodate yourself to the habits and circumstances of the family. For your patient's sake as well as for your own, you must request that your meals be served out of the sick-room, but never betray to your patient by word or look any lack of consideration for your comfort that you may unfortunately meet with.

To whom your time belongs.

Your time is the property of those who employ you. There will be many hours, if your patient is not seriously ill, when, by assisting in the family sewing, or in other

ways, you can make yourself useful. You should on no account, however, bring sewing into the presence of any sick person or nervous convalescent, and never turn the gas up brightly in a sick-room that you may see to knit, etc. One gas-burner will consume a large amount of the air needed for your patient.

Rest and exercise.

If your patient is very ill, rest can only be taken at odd times, when he can safely be trusted with some member of the family. It is very important that you should cultivate the habit of light sleeping. It will sometimes be necessary that you should be wide awake all the night; in this case do not neglect to provide yourself with well-made coffee and some refreshment,—to be taken, if possible, in an adjoining room, where also, when the arrangements of the family will permit, the little matters necessary to use in the care of the sick should always be kept.

A nurse must occasionally be relieved and allowed some hours of undisturbed sleep and a little while in the fresh air, not less than twice weekly. If no arrangement is made for this, state your case pleasantly, and ask for relief; but never show unwillingness to go to your patient, even when off duty, and never let him see that you are tired or disturbed about anything.

What should be done before entering the patient's room.

The bonnet and outside garment should be removed. Never allow any one to enter the room of a very sick patient with the bonnet on. Arrange your dress for work; inform yourself where towels and clean linen are kept, where to put soiled clothing, and where to empty and wash vessels.

The best way to greet your patient on seeing him for the first time.

On entering the room for the first time a pleasant look or bow is sufficient. The first service skilfully rendered will make you acquainted with your patient. Do not sit where he will be obliged to see you, and do not appear to watch him, though you must observe him constantly.

Whispering in a sick-room should be called a vice.

There may be circumstances in which a whispered conversation in the same room with a patient is absolutely cruel. It is impossible that the patient's attention should not be strained to hear. Walking on tiptoe and moving stealthily about the room are injurious for exactly the same reasons. A low distinct tone when conversation is necessary and a light step will seldom annoy. A patient will often refrain from complaining of these little things lest he should be thought selfish. All the more care should be taken to protect him from them.

What other things disturb a patient.

Sitting on the bed, the rattling of newspapers, the turning of leaves with a snap, the swinging of a rocking-chair, sewing and the clicking of knitting-needles, one or all, are sometimes seriously annoying. Unnecessary or unexplained noise, though slight, injures a sick person much more than necessary noise of a much greater amount.

How to promote the peace of mind and serenity of your patient.

You may do this by moving quietly, promptly putting things in their places, knowing the right thing to do and

doing it *without hurry*, never calling upon your patient for a decision, or letting him be startled by any one or anything. Anticipate little wants, but never question in regard to them. If your patient is delirious, do not contradict him; humor the notion quietly, whatever it may be, or say nothing unless questioned. Be careful to avoid all appearance of fear.

Further, *do your thinking inside your head*, and do not oblige the patient to hear you say, for example, "There! I must go and see about that beef-tea; but I guess I'll wash up the spoons first." The nurse should listen attentively when the patient speaks, and never ask him to repeat. Never speak to him from a distance, or while standing behind him. Shut a door quickly and softly, oiling the hinges, if rusty, to prevent creaking.

Things that are never to be spoken of before your patient.

On no account speak of the sicknesses and diseases of other patients, painful hospital experiences, operations performed and sufferings witnessed, newspaper reports of crimes and calamities, or anything that may excite painful emotions. Let your remarks be cheerful, divert your patient from gloomy thoughts, but be careful to avoid much talking of any kind.

The symptoms of the sick person not a topic of conversation.

Never speak of the symptoms of your patient in his presence, unless questioned by the doctor, and never give an unfavorable opinion of his condition to any one in his hearing.

Low-spirited patients.

If you can conscientiously encourage a patient, do so. Keep him cheerful and free from anxiety, and never look

gloomy or anxious yourself, or give up hope while life lasts.

Insensible patients.

Though a patient seems insensible, or in a stupor, never say anything aloud or in his presence which he ought not to hear; his hearing may be acute though he may not be able to speak or move.

What your duty is to the doctor.

It is your duty implicitly to obey all his directions, to report carefully in writing every symptom and the exact history of the day, to encourage full confidence in him on the part of the patient, and never under any circumstances to discuss his treatment of the case.

A nurse not justified in leaving a patient who requires her care.

Having assumed the responsibility, it is the nurse's duty to remain with the sick person as long as she can be of use, unless her health, or that of some member of her immediate family, obliges her to leave.

There may be cases where the disease becomes chronic and incurable, lasting for years; it is not obligatory upon a nurse to remain indefinitely in such a case.

Special suggestion to a trained nurse.

Never "tell tales out of school." Find something better to talk about with the family than your own exploits in nursing, or personal items of physicians, or other officers in the hospital which you may have come from. A trained nurse ought to feel too much pride in her school to discuss its affairs in every house. If you are questioned about these matters, remember that gossip,

though it may gratify curiosity for the moment, will not in the end increase the respect felt for the nurse. "A nurse should be ladylike in her standards of thought and deportment, in firmness, integrity, and discretion, while gentle and sympathetic in manner,—fitted for emergencies, and yet for the petty details of ordinary life, she should walk her ways with purity of heart."

Concerning callers.

No nurse who respects herself will allow her duties to be interrupted by visits, or will permit any intrusion, by her friends, upon the families of her patients.

That nurses should be *extremely careful* in the friendships they make cannot be too clearly understood. A woman, while meaning no harm, will injure her reputation for life if she associates with unworthy persons, or with those to whom the slightest suspicion attaches, whether their acquaintance has been made in a hospital or outside of it.

When a nurse may be an especial comfort and aid.

In times of great distress, or when it is clear that your patient is dying, your *quiet self-possession* and unobtrusive sympathy will be of the first importance. Do all that you can for your charge, and then, if not needed, stand aside that the family may be nearest him. When death has come there is no need, as in hospital wards, to hurry the arrangements. The relatives should be undisturbed until they voluntarily leave the room. Then you may do what is necessary. Be very careful that everything is done tenderly, and that great care is taken in guarding from exposure. Do not hurry from the house until you know whether you can be of use in the housekeeping, the care of the family, or in doing errands for a few

days. Always leave the room, clothing, etc., in perfect order, and put out of sight medicines or other traces of the sickness. See that the bedding, towels, clothing, etc., go to the laundry, and if the room is left empty, that the windows are wide open and the shutters closed.

Special obligations which rest upon you in your profession.

You are in honor bound to hold sacred the confidences of your patients, and never to betray family secrets. Be sure that your reputation in this respect will follow you from house to house, and if it is discovered that you are a tattler it will destroy your business, and in the case of your being a trained nurse, will bring discredit upon the school whose interests you should have at heart. You have chosen a profession in which you may honorably maintain yourself, and win affection and respect. You can make yourself a blessing or an affliction wherever you are called, and the turning of the scales will mostly depend upon *little things*.

Telling sad news.

It may sometimes happen to you that you are called upon to tell the patient that death is near. This you will of course never do without the doctor's permission, and not then if there is any member of the family, clergyman, or other person to whom the duty rightly belongs. When you must speak, do so with the greatest possible gentleness. To many a weary man or woman it is life and not death that is coming, and you will be bringing good news; but where there is only sadness and distress to face, all your courage will be needed as a Christian woman, all your tact as a wise nurse.

Without a quiet, cheerful, Christian faith no woman is properly fitted for the position of a nurse.

THE PATIENT'S ROOM.

The room and its arrangement.

The best room for a sick person is one on the sunny side of a house, and which has an open fireplace in it. Should there be such a room to which the patient can be removed, the nurse should pleasantly suggest the change. If the chimney is stopped with a fire-board, newspaper, blower, bunch of straw, or other obstruction, the nurse should at once remove it.

The room should be kept bright and cheerful, unless the condition of the patient requires it darkened. Let in the sunlight freely, always shading the patient's face. If the bed faces the window, turn it round, or, better, set up a screen. Bars and streaks of light from ill-fitting blinds are very trying to the eyes. The bed should be pulled out from the wall as far as possible, that the air may have access to it from all sides, and the nurse move easily about it. If the physician prefers a darkened room, the nurse must accustom herself to moving about quietly in it, and let no consideration for her own convenience lead her to object to the order.

Carry out of the room breakable ornaments and anything not needed that will only make a lodging-place for dust. Take away rocking-chairs that persons might be tempted to swing in, and keep everything about the wash-stand perfectly clean and fresh. If there is no adjoining room or closet in which you can keep the various little matters which you require in your work, keep them out of sight behind a screen. A common clothes-horse covered with a quilt or blanket shawl makes a screen easily procured.

Bedside tables.

A small, light table, with a drawer in it, should be placed for the patient's use. A glass of water or of cracked

ice, covered with a saucer or napkin; an orange nicely prepared in little sections just large enough for a mouthful, or any other ripe fruit, if the doctor permits it, put over a bowl in which there is ice; a few perfectly fresh flowers, or a small growing plant, may be allowed on the bedside table, but nothing else.

Stationary basins.

If there is a stationary basin in the room, put in the plug and fill the basin full of water, which must be changed from time to time; or stuff a towel into the basin so as to close the overflow holes also, and then cover it with a stiff paper or board, and never empty anything into it or use it in any way.

Reasons for not using stationary basins.

The water you bathe your patient in, or use for any purpose about a sick-room, is very impure, and if emptied into the basin will form a slime round the pipe, and the impurity will escape into the room again in the form of foul air. The waste-pipe also is almost sure to be defective, and sewer gas may rise through it from other parts of the house or from the street.

Slop-pails.

These should never be allowed in the room. Carry out all vessels covered, and empty and wash them immediately, keeping special towels constantly clean for this purpose.

Bedpans and other vessels.

Never allow vessels, bedpans, or urinals to stand where they can be seen, either by the patient or by persons coming into the room. Keep them in some closet or adjoining room when possible and *never put them under*

the bed. If they must be ready for instant use, stand them near the bed, and throw a clean towel over them.

Always keep a little deodorizer in them, and put washing soda in the water they are washed with. Vessels should be warmed before bringing them to the patient.

A deodorizer.

A pound of sulphate of iron (copperas) dissolved in two quarts of water is an excellent deodorizer, and has no disagreeable smell. Pour a little into the vessels after washing them, and keep it in them. The mixture will stain towels.

A disinfectant for vessels.

In communicable diseases, and especially in typhoid fever and dysentery, always keep in the vessels, and pour down the closet, daily, some of the following mixture:

Water	2½ gallons.
Sulphate of iron . . .	4 pounds.
Carbolic acid . . .	4 ounces.

How high the thermometer should stand.

Never let the thermometer rise above 70°, unless in special cases, such as croup, etc., when the doctor's directions must be strictly followed. At night the temperature may be 60°–65°, unless the doctor directs otherwise. *Ask him about it.*

What ventilation is.

Right ventilation is clean air displacing foul air, steadily and constantly, and without chilling the patient or the room.

Cold rooms.

Do not suppose a room to be well ventilated simply

because the thermometer is low. The air in a cold room may be very impure.

Device that may be of use in airing a room.

It has been suggested that a door swung rapidly and quietly back and forth will pump the bad air out of a room, and draw in the fresh air from the window which is down at the top.

The door left open into the entry.

You cannot ventilate a room by leaving the entry door open; only the stale air from the house comes in by the door, and all house noises are heard. A door into an adjoining room could be open if that room were ventilated through an open window. This would answer at night.

What to remember about perfumes.

Remember that the burning of pastilles or coffee, the sprinkling of perfume, etc., *does not purify the air;* it is simply covering, not cleansing. Clean air can come *only* from outside the house.

What you can do to ventilate a room.

With the doctor's permission, the window farthest from the bed can be kept constantly down an inch at the top, the blinds, or shutters, or a screen being so arranged that there shall be no direct draught on the patient. Stand a lighted lamp in the open fireplace, or, better, light a fire there. This draws the foul air up the chimney, while the fresh air from the window takes its place. If it is impossible to have a fire constantly, a few sticks lighted several times a day, and the lamp kept burning in the chimney at all other times, will answer.

How you should proceed to air more fully.

Cover the patient's head as well as body from all possible draught, protecting the head with a cap or hood, and the body with extra blankets; in certain cases drawing a blanket up over head and all. Throw open the windows for a few minutes, keeping the patient covered after the windows are closed until the thermometer again stands at 68° or 70°. This should be done in dry weather, where the case permits it, at least three times a day. Where this cannot be done, fill an adjoining room with fresh air, wait until it is a little warmed, then open the doors and let the air into the sick-room. The cases in which you must not allow your patient to breathe the cold air, but must cover his head and mouth until the fresh air is again warm, are all such as involve the throat, lungs, and nasal passages; croup, sore throat, diphtheria, pneumonia, typhoid, which often becomes typhoid pneumonia; and scarlet fever and measles, which both occasion throat-troubles.

How the room can be put in order.

This is the duty of the nurse, and requires management. Choose the time when your patient will be least disturbed. Never move about in a fussy way when he is eating. Do not use a feather duster; wipe the wood-work, furniture, etc., with a cloth. Hang the bedside rugs in the air. Dip a cloth in water and wring it dry, and pass it quickly over the carpet. This is especially necessary under the bed; the cloth can be fastened round a broom. A screen should be put round the bed while this moving about goes on. The room can only be thoroughly cleaned when your patient can be moved out of it for a while.

How to put coal on the fire without noise.

Bring it into the room rolled in a paper, and lay it, paper and all, in the grate. When it is necessary to have ashes taken up, or other disturbing work done, use the screen as above.

Where bottles, spoons, glasses, etc., should be kept.

Keep all these things out of sight, on a table or shelf by themselves. When the prescriptions are changed and certain bottles and boxes are no longer needed, put them away in some closet to save confusion. Medicines often stain silver spoons; to prevent this have a bowl of clean water with your bottles, and keep the spoon in it. One or two clean napkins should always be at hand, with the medicines. All washing of glasses and spoons must be done away from the patient's room; the rattling and jingling are very annoying.

How to change the bedclothes.

Fold the under sheet; then remove the soiled with the same motion which puts on the fresh one. The sheet must first be warmed and aired, then half of it should be folded up small and flat through its whole length; lay this folded part next and close to the patient, pushing before it the soiled under sheet folded in the same way. Press down the mattress close by the patient and gently work the two folds, the soiled and the clean one, under the back and shoulders; the head and feet can be slightly raised to allow the folds to pass; this done, you have only to pull the sheet smooth and tuck it in. Change the pillows, and alternate them several times a day; slip a cool fresh one under the patient's head and take the warm one away. If the bed is wide, you can gently move your patient from

one side to the other, turning, and never dragging him, and have a fresh half of the bed always ready for the night. When it is possible, a second bed for the night is an excellent provision.

How to change the upper sheet.

Air and warm the sheet and then roll it in its width. Pass it under the sheet which you are to change, commencing at the foot of the bed and bringing it up as smoothly as possible, unrolling it as you move it up. When it is well over your patient, draw down the soiled sheet and remove it at the foot of the bed. In this way you do not remove any of the blankets, and so avoid chilling the patient.

How to secure a fresh feeling bed with few sheets.

Sheets should be changed much oftener than they commonly are, but if the supply is limited, you can at least keep two upper sheets in use at one time, and alternate them, taking the one that has been in use all day and hanging it in another room to air, and putting over your patient at night the sheet which you hung by the window in the morning, being careful that it is not damp or chilly. You may help in this way to secure a good night for your patient. As soon as he is well enough to be lifted to a lounge, have the mattresses, pillows, and bedding carried out of the room and aired by an open window.

The best covering for a bed.

The covering should be sheets and blankets; no heavy quilt or counterpane should be used.

How to make a bed for long occupancy.

In serious cases of illness the mattress must be protected with a rubber-cloth; then comes the under sheet, and then

a draw sheet, which is simply a sheet folded several times and laid across the bed under the patient and well tucked in. This draw sheet can be easily removed and changed with very little disturbance to the patient, and is necessary also in order to protect him from the heating effect of the rubber-cloth, which, if too near the person, promotes weakening perspiration. It will often be necessary to put a second rubber-cloth between the under sheet and the draw sheet to keep the under sheet dry and clean, and free from various discharges.

Airing clothing, etc.

No clothing in use, no flannels or damp towels, should be aired in the room. Soiled articles of all kinds should be at once removed. Keep two night-dresses in use, one for the day and one for the night; always hang the one you take off by an open window for a while, and warm it before using it again. Keep two sets of blankets if possible; airing one set in the open air while the other is in use.

THE PATIENT.

How to lift the patient, if very ill, to another bed.

The bed should be made ready for use and pushed close to the one occupied. Two, or, better, four persons should then take by its corners the sheet on which the patient lies, and very slowly and gently lift and place him on the fresh bed, removing the sheet used after he has rested a while. Or, if there can only be one person in charge, she can proceed in this way: the second bed must be the same height as the one occupied; a large

rubber-cloth should be laid under the patient, who is drawn to the edge of the bed. This cloth extends over to the fresh bed and makes a smooth surface, across which the patient may be easily pulled on a draw sheet to the fresh bed, and the rubber-cloth may be removed. The two beds must stand close together, and the rubber-cloth must be fastened with large pins to the bed from which the patient is to be moved.

Should a patient help himself?

Not at all, if he is very ill. Never let him sit up or turn himself alone. Save his strength in every way.

How to lift a helpless patient.

If the patient has slipped down in the bed and needs to be put up on his pillow again, he *must not be dragged.* If strong enough, he must clasp his hands round the neck of the nurse, who leans over him, by this means distributing his weight more equally; the nurse will generally find it easy to gently lift him in this position an inch from the bed and raise him up. Should he be too heavy to lift in this way, or too helpless to use his arms, it is better to drag the sheet on which he is lying up towards the bed-head, and to cover the space left at the foot with another.

Should it be necessary to lift him out of bed to a night-chair, the chair must be raised to the level of the bed, and he should then clasp his hands round the nurse's neck, and be in this position gently moved along towards the chair. The return to bed can be managed in the same way; the patient being seated on the edge of the bed, his feet can be lifted from the floor.

When there are two who can lift the matter is more easily managed. One nurse should place herself behind the patient and pass her arms under his arms, and clasp

her hands over his chest; his head and shoulders will in this way rest against the nurse's chest. A second person then clasps her hands under the patient's knees and raises them a little; then both at the same moment lift him and change his position. This must all be done slowly, and care taken to put him down gently without any jar or twist.

If he is absolutely too heavy to lift, taking him out of bed should not be attempted, and the usual vessels should be substituted for the night-chair.

How you should arrange the pillows.

Place them so as to raise the head, and also to support the shoulders and give the lungs full play. In propping up a patient, see that a pillow is pulled well down into the small of the back. Commence with *that* pillow, and put the others each one *behind* the last. This keeps them from slipping. One or two quite small pillows, or little sofa-cushions, which can be covered with a linen case and moved about easily, just as any part needs support, are very important to the patient's comfort.

The manner of bathing.

In bathing a patient, avoid exposure and fatigue for him. Bring the towels, soap, brushes, clean clothes, and everything required all at once. Do not go and come, fetching first this then that forgotten article. Put a rubber-cloth covered with a folded sheet under the patient. Slip the arms out of the sleeves (you will change the night-gown afterwards), and then pass your hands under the bedclothes, using freely a warm soapy cloth. Do not take up much water with your cloth. Wring it out, and frequently dip it into the basin, and change the water once or twice. Sponging off the hands and face several times a day is a cooling and refreshing process.

A little cologne or alcohol may be put into the water, and a few drops of tincture of myrrh or cologne in the water which should be given to rinse the mouth. A soft linen rag used daily will take the place of a tooth-brush very well, and can be fastened to a little stick if preferred.

The best way to give a plunge-bath.

If possible, a portable tub should be used at the bedside; if not, the bath should be prepared in the bath-room, the temperature of the water and of the room being tested by the thermometer, the room being sufficiently warm to prevent any chill on emerging from the bath. The patient's night-clothes having been removed before he leaves his bed, he should be rolled in a clean sheet, wrapped in a blanket, and pushed in a chair or carried to the bath. He should then be put into the water, still rolled in the sheet, for the length of time ordered by the doctor.

On removing him from the water, he should be quickly rolled in a dry warm sheet, wrapped in a blanket, and carried back to bed. In this way a weak patient can be made dry without extra fatigue. A little rubbing as he lies in bed completes the process. Rub with long, soft strokes, not niggling little pats here and there. The damp sheet and blanket are now removed, and the night-clothes put on. If a number of baths are ordered in a day, it is best to roll the patient in a sheet, and not fatigue him with putting his night-clothes on and off.

How to change a patient's night-clothes.

Have everything at hand, and all well aired and warmed before you begin. Make the change by slipping his arms out of the sleeves and putting the fresh clothes over the head before removing the others at the feet. If the

patient is very weak, rip the night-gown or shirt down the front, and attach strings to fasten it up when on. In removing it, slip out one arm and at once slip on the corresponding clean sleeve; pass the gown under the shoulders, pushing off the soiled one at the same time, and then put on the other sleeve. This can all be done without raising the patient up in bed. If you raise him, pass the hand under the pillow and raise slowly and slightly. If flannel shirts are worn, rip them down the front in the same way, and slip them inside the night-gown, sleeves inside sleeves, before beginning to make the change. A flannel sack put on outside the clean gown in the same way is a good protection, and should always be worn when there is much exposure from tossing about.

How to give a foot-bath.

If this is properly done, even a very sick person need not be disturbed. Spread a rubber-cloth over the sheet. Have the water of the right temperature, tested by the elbow, to which it should feel hot. Put the foot-tub in the bed; place the patient on his back, draw up the knees and put the feet in the water. Cover knees and tub with an extra blanket to keep the steam from the bedclothes.

Brushing the hair.

Protect the pillows and bedding by putting a large towel, or peignoir, about the patient. The hair should be lifted in locks with one hand, and gently combed or brushed with the other. Never fasten it in a hard knot, which presses on the patient's head while lying in bed.

What generally causes bed-sores.

Bed-sores are, in nine cases out of ten, the result of bad nursing. *Prevention* is better than cure. The nurse has

mistaken her calling who lets a mock modesty keep her from doing her duty in this matter; sponging the exposed parts, or those upon which pressure comes, *daily*, with alcohol and water, dusting them with starch, and keeping the under sheet perfectly dry and smooth, and the clothing clean. Too much vigilance cannot be exercised. A very heavy or a very thin person will be peculiarly liable to bed-sores even without serious illness. Pressure on one part must be avoided by changing the position every few hours, and by using air-cushions. The slightest redness and tenderness should be attended to carefully; the alcohol bathing should be tried three or four times a day, followed by the dusting with powder, and, if this fails, an air-bed or water-bed should be used. The redness should be reported to the physician.

What to be careful about in giving medicines.

Medicines should be given as near the exact time as possible, and in the exact quantity ordered. Never trust to the eye; measure in a graduated glass, or drop it with care. See that the bottles are labelled carefully. A trustworthy nurse will always look at the label on the bottle before taking the cork out, whether she thinks she is right or not. *The habit of caution should be strong with a good nurse.*

Things that are important enough to write down.

The hours at which medicines are given should be written down and crossed off each time that something is taken. Great care must be used not to crowd medicine and food one upon the other. The nurse must know exactly how much beef-tea or milk-punch the doctor wishes to have the patient take; exactly how often he must be fed, and how long an interval should be left

between certain kinds of food and certain kinds of medicines. Or, if the matter is left to her own discretion, she must arrange the time for giving food in such a way as not to destroy the patient's appetite by giving medicine immediately before the food, or to nauseate him by giving it too soon afterwards. A good nurse has a *time-table* for all these things written out for the day, and will need all her ingenuity sometimes to keep the doses and the food from encroaching on each other.

The patient's journal.

It is further the duty of a good nurse to write out a short history of the patient's day, an account of just what has taken place since the doctor's last visit; how the temperature and pulse have varied, and at what hours the changes occurred; how often there has been a movement of the bowels, and what the character; what the character and quantity of the urine passed; whether the sleep was a quiet or a restless one; what, and at what hour, food and stimulants were taken; when medicines were given; etc. All this put plainly and in as few words as possible, in writing, will save a great deal of talking in the patient's room and consequent anxiety on his part about his own symptoms, will economize the doctor's time, and will obviate mistakes if the nurse happens to be taking her necessary rest when the doctor calls, and some one else is in temporary charge. It is systematic carefulness in these little things which makes the difference between a good nurse and a poor one. See page 258.

Precautions on leaving the patient to another's care.

You should write down what is to be done in your absence. The times for giving medicines, or stimulants, or food. Do not stay away longer than the exact time pro-

vided for. If sleeping, arrange to be called; indeed, this is always important. The nurse's mind should be relieved from all anxiety about awaking. Your patient will watch for your return, and if you are *kind* and *intelligent*, will prefer you to any one else.

Defend your patient.

Defend your helpless patient from well-meaning, perhaps, but injudicious interference. Do not allow visits or conversations in his presence that may injure or fatigue; such as accounts of other people's diseases, or recommendations of "sure cures," and other quack treatment. Keep thoughtless people, or noisy children, out of the room. The more people there are in the room the less fresh air there is. Especially prevent your patient from hearing news or any exciting subject spoken of in the evening. Keep his mind quiet for the night, and be very careful that his first sleep is not disturbed. A patient who is roused out of his first sleep very often has his night's rest destroyed.

If during the illness bad news of any kind has come to the family, do not allow it to be told to the patient without the doctor's permission. It will sometimes be necessary to ask the doctor to be at hand when the news is given. Under no circumstances should the patient be suddenly shocked or pained by such communications, and all little domestic worries must be kept away from the sick-room.

How to avoid disturbing the patient at night.

Make all the arrangements for the night early; have the fire in order, the different articles needed at hand, the room aired, the last medicines and food promptly given, the bedside table ready, and the light turned down and

shaded from the patient's eyes. Tin shields are bought for gas-burners.

Food at night.

With a very sick person feeding and the giving of medicines go on regularly during the twenty-four hours; there is no day and night; but no patient suffering from exhaustion, or slowly recovering from a wearing illness, should be allowed to settle down for the night without taking as the *last thing* some light and nourishing food. A cup of hot caudle, a glass of milk not too cold, a little gruel, or cup of well-made beef-tea, will support the patient through the night, and prevent the feeling of exhaustion in the morning.

Watching the expression and breathing.

Be careful to have your light so arranged that you can, from time to time, brighten it enough to show you your patient's face as he sleeps. A candle brought near the bed and shaded with the hand will answer. The color and expression of the face must always be carefully watched by day or night; but in sleep alarming changes may take place, especially with feeble or old persons, or young children, and they will be known only by the color or expression of the face and by the breathing, which cannot be ascertained in the dimly-lighted room. At such times it may be of the greatest importance to rouse the patient and give some stimulant or food.

What provision to make for the hours just before daybreak.

If the patient is very ill, the responsible person must arrange always to be with him toward the early morning. At this period of the lowest temperature the fatal chill often occurs, and the patient may be lost from want of

a little external warmth. The fire should, if necessary, be replenished. The feet and legs should be kept warm, and whenever a tendency to chilling is discovered, hot bottles, hot bricks, or warm flannels, with some warm drink, should be made use of until the temperature is restored.

Early morning food.

Even when there is no very serious illness the early hours must be provided for. The patient has perhaps been restless and wakeful, or is exhausted by heavy sleep, or is feeble from old age, or convalescing from severe sickness, with the longing for food which is felt on recovery from fevers sometimes. In any and all of these cases do not wait for the family to be roused; arrange for this necessity overnight. Have at hand in some accessible place, *not the patient's room*, nor any other occupied room, some light food which you can heat quickly over a gas- or spirit-lamp,—gruel, beef-tea, coffee, boiling the milk which you add to it, any simple thing which the patient is allowed to eat. Give it, having first washed out his mouth with a soft cloth, or given him water to rinse it with. It will often happen after this food that the patient will have a refreshing morning nap.

Cooking not to be done in a patient's room.

Do not cook or warm anything in the patient's room if you can possibly avoid it. Simple fixtures are bought which can be placed over any gas-burner, and in which gruel or beef-tea can be quickly warmed. A nurse should provide herself with one, to carry with her to her patient's houses. Do this warming in an adjoining room, or even in the entry, rather than in the presence of the sick person.

The proper manner of serving the meals.

Serve them upon a tray covered with a fresh napkin. Have cups and spoons shiningly clean. Be careful not to slop the tea into the saucer, and not to bring *too much* of anything. Be careful that all necessary things are on the tray when it is brought to the patient; if you are obliged to leave it a moment to go for something else, never set it on the bed, but on the table. Never taste a patient's food in his presence. Take the tray out of the room as soon as the meal is eaten. You may keep beef-tea which is needed for the next dose in the nearest cool place, carefully covered. The ledge outside the window, in the shade, will answer if there is no better place. Take it away from the bed even if you have to give it again in ten minutes. Medicines, food, or stimulants should never be where the patient can see or smell them. Never leave food standing on the table under the idea that perhaps the patient will "take a little by and by." When needed, let it be brought promptly, hot (unless there is diarrhœa), in the right quantity, and without too much stir or parade, or rattling or jingling of cups and spoons.

How you should feed your patient.

Prop him up gently; put something round his shoulders, and a napkin under his chin and over the sheet. Do this whenever anything is to be put in the mouth. Do all without hurry, and avoid talking to your patient while he is eating. Notice the quantity taken, and report to the doctor in definite terms: "he took four tablespoonfuls of soup," or "a wineglass of punch," etc. Consult the hours when your patient can best take food. Anticipate and prevent faintness. Not a few lives are lost by mere starvation, where a little ingenuity and a

great deal of perseverance might have averted the result. If your patient feels faint at a certain hour one day, just before that time on the next day give him his beef-tea or stimulants.

How to persuade a patient to eat.

Bring the food, whatever it is, to him. Do not say, "Don't you think you could take a little" of this or that, unless you have it in your hand at the time; the patient will get over the fancy for it while you are gone to prepare it. Vary the diet as much as possible when allowed, but with a very sick person do not use up what little appetite or power of digestion there may be with foolish things,—wine jelly or other sweets.

A helpless patient.

In feeding a helpless patient give him his food in manageable mouthfuls, and don't hurry him. When he has finished, wipe or wash the mouth gently, take away the bed-rest, and let the patient down slowly with your hand under the pillows.

What to do when much food cannot be taken at one time.

In such a case give a little food frequently, at short intervals. *Ask the doctor whether you shall wake the patient to feed him.* Sleep is sometimes of more importance than food. Great care should be taken not to interrupt sleep unnecessarily; but remember that patients sometimes sink away in their sleep, when had they been roused and fed they might have lived. Six small meals are better than three large ones for most sick people.

Feeding delirious or insensible persons.

Rouse the patient's attention as much as possible, call him by his name; press the spoon against the lower lip,

and move it gently back and forth. Generally the lips will part involuntarily, and then you should pass the spoon in, far back in the mouth, and slowly empty it. The patient must first have been slightly raised by a hand under the pillow. Insensible persons often suffer from thirst, and must have water given to them from time to time, or the mouth and tongue may become very dry and the breathing be more difficult.

How to prepare beef-tea and milk in serious cases, or when there is diarrhœa.

In the following ways, and by using them judiciously, a clever nurse can give the daily ration of beef-tea without exciting suspicion or disgust. A delirious patient will more readily take the cold preparations:

1. The juice of a pound of beef may be extracted by cooking in a bottle in the usual way, and to this juice may be added two wineglasses of sherry, sugar, lemon-juice, cinnamon, and one quarter box of Coxe's gelatine, or just enough to set the jelly. Serve in little forms. Made in this way it cannot be told from the nicest wine jelly, and is far more nourishing.

2. Chop finely a pound of beef; add one and a half pints of cold water in which you have put eight drops of muriatic acid and a pinch of salt. After an hour drain off the fluid without pressure, add half a pint cold water poured over the beef, strain it all, and use as a drink very cold. It cannot be kept long in warm weather.

3. Make beef-tea in the ordinary way: a pound of chopped beef to a pint of cold water, cooked *very slowly* until the beef is hard. Strain off the juice, which should be a clear liquid like water, have it frozen, and give it to the patient in little lumps like cracked ice.

4. Take the beef-juice, as in number 3, add a tumbler

of boiled milk, slightly and evenly thickened with flour, flavor with bits of celery or celery-seeds, which are to be taken out before serving, add salt, and call it white celery soup.

5. Strain the beef-tea carefully, and keep ice round it, and just as it is taken put a small piece of ice in it. A patient will often drink freely of this when hot beef-tea would be rejected. Do not call it beef-tea in this case, but broth or drink.

6. Chop fine a pound of lean beef, put it in a wide-mouthed jar, stand it in a saucepan of water, and *boil slowly* until the juice of the meat is extracted; skim and strain if greasy, and give cold or hot.

7. Slightly broil a pound of lean beef. The steak from the haunch or "round" is best. Cut it into strips and squeeze out the juice with a lemon-squeezer. Give it cold with a little salt and celery essence; a tablespoon of claret wine may be added. A pound of meat makes about three tablespoons of juice. This is very easily assimilated, and is much to be preferred to beef-tea.

1. Milk may in almost all cases be given with safety, and will be kept down when all other things produce nausea. In such cases add to one pint of milk two ounces (four tablespoons) of lime-water, or more if ordered, and give two wineglassfuls at a time at short intervals. Brandy can be added to this if ordered, and if the patient can retain it.

2. Put a quart of milk into a large, perfectly clean bottle, drop in the whites of three raw eggs, cork it, and shake hard. Give the patient as much as he will take.

3. To one pint of milk slightly warmed stir in a large dessert-spoon of liquid rennet, and set it aside to cool. This makes a soft blanc mange very easily swallowed.

4. Wine-whey is milk with a stimulant added. Take a tumbler of milk, boil it, and as it rises, throw in a wineglass of sherry, giving one stir round the edges; let it stand over the fire a moment until the curd sets; strain, and sweeten and ice it; give freely when stimulants are allowed by the doctor.

A nurse need not worry a patient who is very ill with a great variety of dishes; and, on the other hand, must not go on giving one thing that is liked until it disgusts. When there is nausea and inability to eat, milk is food, and will alone sustain life for weeks. Milk made hot, not boiled, will stay down sometimes better than cold drinks, and is very nourishing and easily taken. Boiled milk given cold is the best form in diarrhœa.

If the patient likes coffee made with boiled milk, the yolk of a raw egg may be stirred carefully into his cup of coffee without his tasting it, and it will increase the nourishment by that much. Coffee, however, will not be given in cases of diarrhœa.

Convalescence.

When a patient is convalescing great ingenuity will be needed to vary the monotony; a relapse may sometimes come from utter weariness and want of interest in life. Bring flowers, illustrated papers, and sensible friends to the room. Give all the fresh air that you can. Wrap up the patient and wheel him in an easy-chair, or on a sofa, into another room, or open the window when the sun shines fully on it, and, putting extra wraps round him, let him sit there a while. Fresh air before a meal will often secure a good appetite. Change the arrangement of the furniture. If a picture or any other ornamental object has stood long within the patient's sight, put something else in its place. But in all these efforts

at variety do not fatigue the patient with too many things to see and do in one day.

What if the patient is cross.

The nurse must make great allowance for all irritability, and take special pains to be gentle and patient. Under no possible circumstances may a nurse threaten a patient with leaving him. If she finds her own strength and amiability unequal to the case, she must speak to the physician and be guided by his advice.

When a patient is very likely to take cold.

Cold is often taken on sitting up for the first time. The easy-chair should be covered with a blanket, and the patient, well wrapped up, placed in it; the blanket should be drawn over his knees, and wrapped close about his feet. The nurse may then pull the chair away from the bed, and carry out the bedding to air.

Reading aloud, or in the presence of the patient.

This is never admissible unless asked for, and should never be long continued. If reading aloud is agreeable to the patient, or is permitted, read in an even, rather low voice, without much emphasis and without gesture. Do not make little pauses to pick out scraps for your own reading while the patient waits, and do not fold and refold a newspaper, or rattle the leaves of a book as you turn them.

In genera , be quiet and self-possessed at all times.

CHAPTER II.

APPLIANCES—APPLICATIONS—BATHS—RUBBING.

APPLIANCES.

Medicine measures.

TEASPOONS and tablespoons are of such varying sizes that it is quite unsafe to trust to them in measuring doses. Use always a graduated glass or spoon, to be had at any druggist's. It is not possible to be too exact in this matter; to judge of the right quantity by the eye is criminal.

Atomizer.

In cases where it is necessary to throw a spray into mouth, throat, etc., a hand atomizer, such as is sometimes used in cologne bottles, will answer. Insert the point in a small bottle containing the fluid prescribed, either hot or cold.

Bed-rest.

When the regularly made piece of furniture is not at hand, turn up a high flat-backed chair in such a way that the four feet are in the air, and that it rests on the edge of the seat and top of the back. Slip the back down in the bed, well covered with pillows filled in to the small of the patient's back, and supporting his head and shoulders. When there is a permanently feeble patient a regularly made rest is necessary, which can be lowered or raised, and it should have arms or braces to keep the patient from slipping off at either side.

Catheter.

Oil the instrument with the finger; if the catheter is put into the oil the opening may be obstructed, and the oil may interfere with the proper testing of the urine. The patient is placed on the back with the thighs slightly separated and drawn up, and the instrument is introduced very gently and entirely without force. Should there seem to be any obstruction, stop, and send for the doctor if the matter is urgent. The catheter is to be cleansed after each using by allowing warm water to run through it from a pitcher or faucet. Should it be necessary to wash the bladder, a flexible tube is passed over the catheter, which is then introduced, and a small stream of whatever fluid is ordered, warmed slightly, is poured in at the other end of the tube *very* slowly from a small pitcher.

Enemata syringe.

Both before and after using see that warm, clean water is passed through the syringe freely, wipe perfectly dry, and keep the metal point bright. When it is to be used, have whatever fluid is ordered in a basin by the bed; oil the point, and, the patient lying on the left side with the knees drawn up, pass the hand under the bedclothes and apply, first in a forward direction and then backward a little, very gently; squeeze the bulb very slowly, and stop the moment that the patient is unable to bear any more.

Vaginal injections are to be given slowly, and of the temperature ordered by the physician. The same syringe is used with a different point, which comes for the purpose in the case with the others.

Bedpans.

In adjusting the pan, bend the patient's knees, and in-

troduce it at the side of the bed, covering the point with a soft towel to absorb moisture. Warm the edges before use by dipping the pan for a moment in hot water; dry it carefully. To overcome the physical difficulty of using it, which is often felt place the patient, if the case allows it, as much in a sitting position as possible, the back and shoulders firmly supported; keep the knees bent, and give the feet something to push against.

Night-chair.

When the night-chair has arms, it is better to take out the arm next the side of the bed for the sake of ease in moving the patient to the chair.

Cradle.

In many troubles the weight of the bedclothes is more than the patient should endure, and a cradle is necessary. If there is no regularly made fixture at hand, cut a barrel hoop into two half circles, cross the two pieces at right angles with each other, and tie them firmly together. Put these over the patient's body to support the bedclothing.

Cushions and pads.

Various-sized little cushions and pads, which can be changed about from spot to spot as any part needs support, are sometimes indispensable. One or more should be of hair, which is cooler and firmer than feathers. A "slumber roll" for the back of the neck is very useful also.

Thermometers.

Any room which is constantly occupied, or which is used as a nursery, or for sick persons, should be furnished with a thermometer. The temperature during the day should never rise above 68°–70°, or at night above 60°–

65°, unless there are physician's orders to the contrary. Hang the thermometer as near the centre of the room as may be, and not against a chimney in use.

Clinical thermometer.

There should be a clinical thermometer used in every family, especially where there are young children. It is applied under the arm in the arm-pit; and sometimes in the groin and rectum, and under the tongue.

The usual place is the arm-pit.

In applying the thermometer, shake the detached piece of mercury well down towards the rest of the column, holding the thermometer bulb downwards in the right hand and striking the wrist lightly on the table edge. Apply it under the patient's arm, drawing the arm forward a little towards the chest. Keep the bulb well in place, leaving it for ten minutes. Remove it, wipe it, make a note of the degree of heat (the top part of the index, or detached piece of mercury, indicates it), and return the thermometer to its case. These things are very easily broken and need care in handling.

Medicines.

Weights, Measures, etc.

Apothecaries' weight.

20 grains (*gr.*)	make	one scruple	— ℈	
3 scruples	"	" drachm	— ʒ	= grs. 60.
8 drachms	"	" ounce	— ℥	= grs. 480.
12 ounces	"	" pound	— ℔	= grs. 5760.

Apothecaries' measure.

60 minims (♏)	make	one fluid drachm		= *f* ʒ.
8 fluid drachms	"	" fluid ounce		= *f* ℥.
16 fluid ounces	"	" pint		= O.
8 pints	"	" gallon		= C.

Approximate measures.

One minim varies from one to two drops.

1 fluid drachm	equals	(about)	1 teaspoonful.
2 fluid drachms	"	"	1 dessertspoonful.
½ fluid ounce	"	"	1 tablespoonful.
2 fluid ounces	"	"	1 wineglass.
4 fluid ounces	"	"	1 teacup.

When single-drop doses of any liquid medicine are required to be given at short intervals, drop from ten to twelve drops into a glass and add an equal number of teaspoons of water, thus making ten to twelve doses of convenient size, and avoiding the chance of dropping an overdose each time. If the medicine is volatile, it can only be dropped as it is needed.

The dose in a few common remedies.

Aromatic spirits of ammonia, paregoric, and spirits of lavender, one-half to one teaspoon, in water.

Syrup of ipecac, one teaspoon.

Sweet spirits of nitre, one teaspoon, in water.

If nitre is taken to affect the kidneys the patient must walk about. If to produce moist skin, he should lie down and keep warm.

Cream of tartar, one teaspoon, in half a glass of water.

Epsom salts, one-half ounce, in water.

Rochelle salts, one to one and one-half ounces, in water.

Lime-water, in milk, two ounces or more to a pint.

Sulphur, one ounce, in molasses.

Magnesia, one teaspoon, in milk.

Citrate of magnesia, eight ounces.

Rhubarb-root, size of a pea.

Castor-oil, one-half to one ounce; take it in half a seidlitz powder with a little ginger syrup.

In pouring out all medicines hold the label up, so that no dripping shall soil it. Before measuring the dose, and again after giving it, examine the label with care,—take out the cork and smell the medicine.

Put the cork in tight after using, or the medicine may be rendered useless by exposure to the air.

If pills cannot be swallowed, mash them up and give in water or syrups,—or milk; give powders in the same. Cod-liver oil may be taken in the froth of porter. Wash glasses and spoons used for medicines in warm water if at hand, and always have a little napkin for the patient's use after taking medicines. Never use the same spoon for two patients without careful *washing*. Wiping will not answer.

If a child or delirious patient refuses medicine and cannot in any way be induced to take it, gently but firmly hold the nose; the mouth must be opened for breathing, when the medicine must be given in a spoon, which is passed far back in the mouth and emptied slowly.

APPLICATIONS.

Leeches.

Wash the part to which leeches must be applied perfectly clean and dry it. Dry the leeches in the folds of a soft towel and apply them, holding them in place with a wineglass or top of pill-box. Never apply them over a large vein. Should they delay taking hold, prick your finger and put a drop of blood on the spot, or one of

sugar and water, or milk. One leech takes about a teaspoonful of blood. If applied to the mouth, they must be put in a test-tube or small bottle, and held to the spot in this way.

Never pull the leech off; if he does not drop when blood enough has been taken, sprinkle a little salt over him. Throw him into a basin of water when he drops. Should it be necessary to increase the flow of blood, a warm poultice applied over the bites for a few moments is effective. Never leave the poultice on for more than ten minutes without examining it. There may be too free bleeding. In the case of a young child it is doubly necessary to guard against this.

To stop bleeding.—Make a small compress of folded squares of linen one on top of the other, or roll up firmly some scraped lint and press it over the bites, holding it in place with the finger or strips of plaster or a bandage. The compress may be dipped in ice-water. Should the bleeding continue, a little powdered alum may be sprinkled on the bites, or the doctor should be sent for.

Cupping.

There are two kinds of cups,—wet and dry. To apply them, get ready four or five wineglasses or very small tumblers (unless the regular apparatus can be had), some blotting-paper or cotton-wool, alcohol in a saucer, and a lighted candle. Soak small pieces of the paper or cotton in the alcohol, light one, toss it into the glass held in the left hand, and after a second reverse the glass quickly over the spot to be cupped, and so on with each glass. The skin under the glass will at once puff up; the glasses may be left on from five to thirty minutes, as ordered. To remove them, insert the thumb-nail under the edge of the glass, so letting in a little air. This is dry cupping.

If wet cupping is needed, snip the puffed-up skin here and there, and apply the glasses again as before; a little blood will now be drawn; remove the glasses as in the former case.

ENEMATA.

Enemata are given either to relieve or control the bowels, or for the purpose of nourishing a patient not able to take food by the mouth.

For the first purpose, from one to two pints of liquid may be used: warm soapsuds, with castor oil or sweet oil, in such proportions as the doctor may order; or, where diarrhœa is to be controlled, less fluid, probably thin starch mixed with cold water, and some astringent or opiate, as thirty drops of laudanum; in all cases the doctor's directions must be asked and followed.

For nourishment, various things may be given: beef-tea, milk and brandy, strong soups, beef-juice and brandy, etc., as is prescribed, but for nourishing enemata not more than four to eight ounces should be given; more than this may simply irritate and not be retained. The fluid must be retained as long as possible and no effort made to discharge it.

Salt enema.

Give one and one-half ounces salt in one pint of gruel warmed.

Oil enema.

Either sweet or castor oil given clear, six to eight ounces, warmed sufficiently to make it flow freely.

Opium enema.

Make a thin boiled starch and let it cool; do not use more than a teaspoonful of raw starch for one enema, and thin the mixture with cool water, stirring it all the

time if it is too thick, when cold, to pass through the tube. To two ounces thin starch-water add thirty drops of laudanum, more or less, as ordered. Children will require less. Ask for directions.

Oil and turpentine enema.

One-half ounce of turpentine.
One and one-half ounces of castor oil.
Three-quarters pint of gruel.

Nourishing enemata.

Strong beef-tea, or beef-blood squeezed from slightly broiled beef, four to six ounces.

Cream, one ounce.

Brandy, as ordered.

Egg and brandy may be beaten together and given by the rectum, also milk, eggs and milk, etc., but not more must be given at one time than is likely to be absorbed; four to eight ounces in all is enough. For a child give less, four to six ounces.

Suppositories.

The patient, lying on the left side, is told to bear down, and at the same moment the suppository is introduced inside the anus, to relieve pain, or as an astringent.

POULTICES.

A poultice, unlike a mustard-plaster, should be made larger than is absolutely necessary. It is intended to allay pain and inflammation, and as the pain probably extends beyond the inflamed part, a large poultice should be made to cover the surrounding surface. Spread it on a stout piece of cotton. Let it be from half an inch to an inch thick. Do not pat it down into a hard pudding.

Make the edges as thick as the middle, or else they dry rapidly and are painful. Cover the surface of the poultice with a very thin gauze or muslin, or bit of mosquito-bar, or lace, so that it shall not stick to the surface and can all be removed at one time. In applying to the chest, do not cover the nipples if it can be avoided. Have the cloth on which it is spread large enough to double up all round the four sides over the edges of the poultice, that it may not ooze out. Have everything ready and the patient's clothing unfastened before you bring the poultice to the bed. Apply it immediately as warm as it can be borne. Cover it with oil-silk or rubber-sheeting, and then a flannel. Keep it firmly fastened to the place it is intended to cover, and renew it before it is cold. Its purpose is defeated if it becomes a stiff cold paste, or if it is allowed to slip about in an unsteady way. Linseed is better than anything else for an ordinary poultice.

When oil is needed to spread over the surface of the poultice use vaseline: it does not become rancid. Never use milk in making poultices; it quickly becomes sour, and is of no value in itself.

A good and very simple poultice is simply a piece of soft thick sheet-lint doubled, squeezed out in hot water, and laid over the part, covered with a larger piece of rubber-sheeting, which comes for such purposes, and is very thin.

Bread-poultice.

Put half a pint of boiling water over a sufficient quantity of bread-crumbs; stir until a soft mass is obtained; spread about half an inch thick over a large cloth, and apply.

Half an ounce of laudanum can be poured over if the pain to be relieved is great.

Linseed-poultice.

Warm a basin, put in some boiling water, and little by little add linseed-meal, stirring thoroughly all the time. The linseed swells and absorbs a great deal of water. When the paste is a gelatinous mass, spread on cloth, and apply. A little oil added while stirring will keep it soft longer. Let it be an inch thick.

Slippery-elm poultice.

This is made like the linseed, using ground slippery-elm.

Charcoal-poultice.

Soak two ounces of bread-crumbs in half a pint of boiling water; add slowly a wineglass of linseed, and when well mixed stir in two tablespoons of powdered charcoal, mix thoroughly, and over the surface of the poultice, lastly, sprinkle more charcoal.

Renew the poultice often.

Bread and suet poultice.

An excellent healing poultice when the surface of the skin is broken is made by mixing equal parts of bread-crumbs and mutton-suet in hot water over the fire until they are thoroughly blended.

Yeast-poultice.

Mix a pound of linseed or oatmeal in half a pint of yeast. Stir gently over the fire; when warmed spread on the cloth.

Hop-poultice

Fill a thin bag with hops; steep a while in hot water; wring out, and apply.

Bran-poultice.

Wheat or rye bran bought at feed-stores makes a light and excellent poultice. Mix as linseed. Linseed, when needed in quantity, should be bought at feed stores.

A jacket-poultice.

Cut a loose-fitting jacket of cotton-cloth without seams, and a second one of the same shape for a lining; sew them together at the edges, leaving a small opening through which bran can be poured in; quilt the bran here and there with large stitches to help keep it in place; soak it in boiling water; press it on a tray to squeeze out the excess of water; and then put it on the patient, holding it close to the body with a wide bandage. It may be only necessary to fill the front and sides with the bran. A soft poultice, half an inch thick, is made in this way, and can be re-wet again and again. It is sometimes used in pleurisy, etc.

COUNTER-IRRITANTS.

In applying counter-irritants do not cover a larger surface than is just necessary, and do not make them thick like poultices.

Mustard-plaster.

Mix ground mustard with boiling water to a thin paste; spread on a stout paper or cloth; cover with a gauze or very thin cloth, and apply, removing it when the surface is well reddened. If slower action is wanted, and a mild, long-continued burning, make a thick paste of Indian-meal or flour, and stir in a tablespoon or more of ground mustard; apply, and keep in place with a bandage. Use this for children fifteen or twenty minutes.

Cayenne pepper plaster.

Make a thin paste of flour and water, and stir in a dessertspoonful of cayenne; spread on paper, cover with a thin cloth, and apply.

Blisters.

Never apply a blister when the skin is broken or scratched. Wash the place and dry with a little friction; lay the blister-plaster on, holding it in place with strips of adhesive plaster or a bandage. The time required to raise the blister varies with different persons,—examine it in three hours; it may take from five to six. The plaster is readily removed when the blister is raised. Now snip the puffed skin in several places with sharp-pointed scissors, and the fluid will run out; wipe it gently, and spread a soft lint with whatever ointment has been ordered, and keep it in place over the spot by strips of plaster, not drawn tight over the lint so as to press hard on the tender place, but attached firmly to the skin outside the lint by either end. Allowing this dressing to slip about so that the clothing adheres to the raw spot causes very unnecessary suffering. The lint and ointment must be renewed twice daily.

For a child.

Never leave the blister on more than from two to four hours. Remove it then when the skin is well reddened, and apply a bread-and-water poultice to raise the blister. The danger with so tender a skin is that the *true* skin underneath may be destroyed if the blister remains on long enough to puff the surface.

Croton oil.

Rub the surface to which the oil is to be applied with a bit of flannel, and then immediately take up one, two,

or three drops of the oil on a rag, and cover the reddened surface; apply this again at intervals of from four to six hours, until small pimples are seen all over the spot rubbed. No oil is to be used after this. Do not try to soothe the burning: irritation is wanted; tie a soft handkerchief over the part.

Lotions to relieve pain.

If a lotion is to relieve pain, a piece of sheet lint, or several folds of old linen, such as an old towel or tablecloth, should be dipped in the lotion and laid on the affected part, covered with oil-silk and held in place by a bandage. Re-wet the cloth by squeezing a little of the lotion over it, without removing it.

Evaporating lotion for cooling purposes.

Vinegar, camphor, alcohol, etc., mixed with twice the quantity of ice-water, should be applied on a single thickness of linen. They cool by evaporation, and must be renewed as the cloth dries; hold in place with a loose bandage, and do not cover with oil-silk or anything else.

Liniments.

Rub the surface to which the liniment is to be applied briskly for a few moments, and then pour a few drops of the liniment into the palm of the hand, and rub with a firm, even pressure until all the moisture is absorbed.

Applications to the eye.

These are generally made with a small instrument which comes for the purpose, but the liquid may be applied with a camel's-hair brush which is kept exclusively for the one case,—and it can be dropped from the brush into the eyes by pulling the lower lid down gently and

sliding the drop in just over its edge while the patient is told to look up. Should moist cloths be ordered laid over the eyes, never bind them on tightly, and never use a piece of oil-silk over them, or apply *anything in the nature of a poultice* to the eyes.

COLD APPLICATIONS.

Cold, when applied, must operate steadily, uniformly, and over a definite space. If the bag of ice or the cold cloths slip about as the feverish patient turns and twists, it is useless, perhaps harmful; if it is allowed to become warm before being renewed, it had better not have been applied.

Ice-bags.

Put pounded ice with a little water into a thin bladder or india-rubber bag. The water remains cold until the last bit of ice is melted; renew before this. By these bags continuous cold is secured, and no danger from frost-bite need be apprehended. Ice can be easily pounded by wrapping it tight in one end of a thick cloth, and then slinging the cloth with force against a stone hearth.

Do not fill the ice-bag full; half filled, it adapts itself better to the heated part.

Cold cloths.

Apply single folds of linen or cotton dipped in cold water, and replace them by fresh cool ones before they become warm.

Cold drip.

Stand a pitcher of water on some bureau or table higher than the patient's bed. Put one end of a long strip of lint or lamp-wick in the pitcher, and lay the other across a cold cloth, which is applied to the inflamed part. A continuous little stream of cold water is thus conveyed to

the part, and the water which passes from it must be caught in a basin on the other side.

Cold drop.

A bottle filled with cold water can be suspended above the bed sometimes, where there is a curtain-ring in the ceiling, for instance, and a piece of lamp-wick half in, half out, and made to depend just over the part to which cold is to be applied. A constant drop of cold water is thus secured. Care must be taken that the water is conveyed into a basin, and not allowed to soak the bed. This cold drop is more easily used with a wounded arm or leg, which can be placed in a trough made of india-rubber cloth, and sloping towards a basin or pail.

An excellent fixture for applying continuous cold consists of a rubber bag with a flexible tube at either end,—one being attached to a faucet or water-cooler, and the other hanging over a pail. The bag, through which a stream of cold water is passing, is applied where desired, having between it and the part a damp cloth.

HOT APPLICATIONS.

The readiest way in many cases to apply heat is by hot-water bottles. Roll them in flannels or thin towels; and should the patient be suffering from shock, or insensible from any cause, and consequently not able to complain, keep a watch against blistering the skin. Bags of sand or salt, bricks, flat-irons, tins, tin plates, etc., are all useful in emergencies to supply heat. Make them very hot, and roll them in towels before applying.

Hot flannels.

These are often applied to the stomach to allay pain. Fold a flannel in a long towel and lay it across a basin;

pour boiling water over it, and then, taking the towel by both ends, wring it as dry as possible. Shake the flannel up a moment to take in air, which will help in keeping the heat, and apply over the part, covered with an oil-silk.

Poppy fomentations.

Boil two poppy-heads in two pints of water until they are reduced to a pint. Strain, and wring out a flannel in the hot fluid, applying, and covering it with oil-silk. A handful of chamomile flowers may be used instead of poppy.

Turpentine.

Wring out a flannel in hot water and sprinkle it with half an ounce of turpentine; apply, and cover with oil-silk. Laudanum may be sprinkled in the same way.

Hot spirits.

The flannel being wrung out in boiling water, a saucer of whiskey can be set in the oven and made hot; wring out the flannel in this, and apply, covering with oil-silk, and renewing as soon as dry. This is useful in cramps of the stomach.

BATHS.

Nothing is more important in preserving the health and promoting recovery from disease than daily bathing. All the vital organs are affected through the skin, and by keeping it in a healthy condition the circulation of the blood, the action of the kidneys and bowels, and all the digestive processes are promoted, many diseases warded off, and the assimilation of food aided.

The nurse should always ask the doctor not only what

kind of bath to give, but also exactly at what degree of temperature he wishes the bath given, as harm often results from ignorance in this matter.

Right temperature of different baths:

Cold	50°– 60°	Fahrenheit.
Temperate	75°– 85°	"
Tepid	85°– 96°	"
Warm	96°– 98°	"
Hot	98°–110°	"

Bran bath.

Put bran enough into warm or cold water to make it milky. This bath is used for softening the skin when it is dry and flaky. It should not be used in stationary tubs, for in letting off the water the bran will be sucked down, and will choke the pipes.

Salt bath.

Put one pound of rock-salt to four gallons of water. Increase the salt in proportion to the quantity of water. Rub the body briskly after the bath. This bath is useful to invigorate feeble constitutions, and when given cold, as a daily sponge-bath, lessens susceptibility to colds, rheumatism, etc.

Sulphur bath.

This is mixed in the proportion of 20 grains of sulphuret of potassium to a gallon of water. It is used in skin diseases and in rheumatism.

Soda bath.

One pound of common baking soda is enough for this bath, which is used for the same purpose as the sulphur bath. The soda should be first dissolved in warm water,

after which water of any temperature may be added in sufficient quantity for a plunge-bath.

Cold douche.

This is sometimes ordered in inflammation of the brain, and to subdue delirium in fevers. The hair should be cut close or shaved, if very thick. Raise the patient in bed, and bend his head forward over an empty basin; protect the shoulders and neck by oil-silk between several folds of soft towels; then pour cold water from a pitcher over the crown of the head into the empty basin, the pitcher being slowly and gradually raised higher and higher, so that the water may fall with more force. Dry the head without rubbing.

Hot plunge-bath.

This is frequently given in eruptive fevers. Wrap the patient in a sheet, and put him, sheet and all, into the water for from ten to fifteen minutes. Guard him from all exposure to a check of perspiration afterwards by warming the towels, night-clothes, and bedding.

Hot foot-bath.

This is usually intended to relieve the head and to promote perspiration. It should be hot enough to make the skin decidedly red, and more hot water should be added from time to time. The water should reach nearly to the knees, and the patient and the tub should be covered with a blanket. If greater relief to the head is required mustard can be added, half a teacupful to a pail of water. The bath should last from fifteen to thirty minutes, and warm stockings or a small blanket should be used in bed after it to protect the limbs and knees.

Sponge-bath.

When given in bed, the chief things to care for are that the bed be protected with a rubber-cloth and draw sheet; that the patient's arms are slipped out of his sleeves, and that a dry night-shirt is always put on after the bath. Take up as little water as possible, but return the cloth to the basin frequently, and change the water three times at least during the bath, having a jug and slop-jar by the bed for the purpose. Everything needed must be at hand before the bath begins. Wash and dry only a part of the body at a time. Dry with soft towels in quick, gentle strokes, enveloping the part in the towel as soon as it is washed, and so avoiding exposure.

Vapor-bath.

The simplest way of giving a vapor-bath is to undress the patient, put a thin flannel or woollen cloth about him, seat him in an arm-chair, stand by his side a pail of boiling water, into which, as it cools, you put bricks made very hot, and cover the patient, chair and pail, with a large blanket fastened securely at the neck. The steam will soon produce the perspiration required. The greatest care will be necessary to see that the bed, bedclothes, towels, and night-shirt are made hot before the patient uses any of them after the bath. Hot-air baths may be given in the same way with a spirit-lamp or gas-stove and no water; guard against fire.

Vapor-bath in bed.

If the bath must be given in bed the sheets should be removed; they quickly become damp and cold; the patient's clothing is taken off, the bedclothes raised on a cradle, and a kettle of boiling water on a gas-stove or

spirit-lamp is stood on a chair close to the bed; a croup-kettle, which has a large nozzle, is useful for this purpose, the nose of the kettle being introduced under the bed-clothing. When the perspiration is very freely established the patient may be rubbed with warm towels and his warmed clothes put on. Dry, warm sheets and blankets must be put on by the rules given, page 22, without exposing or disturbing the patient.

Hip-bath.

This will be given either hot or cold, as ordered by the doctor. If ordered hot, the patient may remain in it not longer than fifteen minutes.

Cold plunge or pack.

These are in favor with some physicians in the treatment of fevers. When ordered, the doctor should always be at hand for the first bath at least, to see the after-effect. If, however, he has gone away, leaving orders that it be given, there are certain conditions under which it would be proper to postpone it until further instructions. For instance, if, since the order was given, a free perspiration has appeared; if the patient feels chilly although his bodily temperature is high; if, on being raised up, he should faint; if, in the case of a woman, the monthly period has come on. Any other unlooked-for symptom which shows itself after the doctor has left justifies the nurse in asking the physician's advice before giving the cold plunge or pack.

If nothing prohibits the plunge-bath, the patient is to be undressed and rolled in a sheet, put in an empty tub, and is to have cold water poured by the bucketful all over the body for two or three minutes until he is evidently cool. He is then to be rolled in a dry sheet and

put back into bed without any exertion on his part and covered with blankets. The nurse must ask in advance for directions in case of exhaustion following the bath.

Should the patient not be strong enough to stand the shock of cold water poured over him, lay him in a tub half filled with water at 90°, and gradually cool it with ice or very cold water to 80°–60°, as ordered.

The cold pack consists in taking off all the patient's clothing as he lies in bed and quickly rolling him in a sheet wrung out in cold water. The bed must be protected with a rubber-cloth with a blanket over it, and the patient must be covered with blankets. The object is to produce free perspiration and so lower the temperature. Leave the sheet on fifteen or twenty minutes in the absence of orders to the contrary, and then rub dry with soft towels; put on warm night-dress; slip off the rubber-cloth. If either of these baths have been of service the temperature falls after a while, the pulse becomes soft and compressible, and the skin moist.

RUBBING.

1. When friction is needed to excite circulation of the blood, brisk rubbing up and down with the bare hand or hair glove, all over the surface of the body, will answer. The best time for this is before dressing in the morning, after the patient's bath.

2. Where there is stiffness or inaction of the muscles from any cause, the entire body should be treated by pinching and rubbing the muscles and tendons, done with the whole hand and not the fingers alone; each joint also should be worked up and down and backward

and forward, evenly and without jerks, commencing at the toes and going upwards, a sort of kneading of the entire body, sometimes called massage. Cocoa oil or butter is frequently rubbed in at the time.

3. Where there is a restless nervousness or fatigue to be overcome the rubbing should be in one direction, in long, slow, firm strokes, beginning with the shoulders and arms, then the back, abdomen, thighs, legs, and feet, with an equable, monotonous movement, which soothes and induces sleep.

For all kinds of rubbing half an hour at a time is enough. The patient's arms being slipped out of the sleeves, the rubber should sit by the bedside and pass her hand under the bedclothes without exposing the patient in any way.

CHAPTER III.

SOME SPECIAL MEDICAL CASES.

THE exciting causes of many diseases are proximity to stagnant water; exhalations from defective drains, sewers, and cesspools; damp cellars; impurities in drinking water, caused by nearness of the wells or cisterns to drains and cesspools; sudden changes from heated rooms to damp night air; mental or bodily over-fatigue; insufficient food and clothing, etc. Therefore wherever a serious case of illness, or a long-continued ill-feeling occurs in a family, the cause of it should be looked for and a remedy or preventive applied. Persons living under the same conditions will be liable to the same diseases, and one case in such a family be followed by others.

Early stages of disease.—The early stages of any disease are not under the observation of a physician, and yet are of great importance. A loss of appetite, a feeling of general lassitude, flushing of the face, and wandering pains in the back and limbs, sore throat, sleeplessness; in short, anything unusual in the appearance or feelings should excite attention. Neglect of these seeming trifles may make the difference between an unimportant indisposition and a serious illness. Therefore on the first appearance of such symptoms it is well to enforce rest, a long morning sleep, followed by a tepid sponge-bath and some light nourishment before dressing for the day. The simplest food should be eaten, and not much of that. No exercise should be taken, but as much fresh air as

possible by night and by day should be secured, and in all cases the patient should occupy a bed alone. It will generally be perfectly safe to give two grains of quinine in twelve hours. The bowels should be regulated if constipated by a simple enema of warm soapsuds. After a day or two of such treatment, should there be no improvement, send for the doctor; you have probably done all that he would have ordered so far.

Typhoid fever.

The principal characteristic of typhoid fever is ulceration of the bowels. Premonitory symptoms may precede the disease by days and even weeks, and are such as restless sleep, mental disquietude, dizziness, pains in different parts of the body, hot dry skin, and a general ill-feeling.

The fever finally announces itself with a chill, or long-continued chilly feeling, and the bodily temperature rises; from this moment whoever is acting as nurse will follow with the utmost exactness the doctor's orders, and will supplement them by extreme care in the following particulars:

Noticing symptoms.—Observe whether the patient talks in his sleep; is clear-headed when spoken to, but listless; has great thirst; a bitter taste in the mouth; a sore tongue; whether there is any rash on the abdomen, or whether the abdomen is puffed up; exactly what the character of the secretions is. Write down the bodily temperature morning and evening, and the rapidity and evenness of the pulse at a corresponding time. Observe whether the patient seems deaf; whether his breathing is labored, especially in his sleep, as if there were inflammation of the air-passages. Some or all of these symptoms will be present, and must be reported to the physician, since during his visits they may not be well marked.

The most critical period in bad cases of typhoid fever is generally the third week; but during the whole course of the disease from its commencement the care of the nurse must never be relaxed.

Fresh air.—Keep the room in winter at 65°. Ventilate it with an open window and an open fire if possible; at any rate, keep the chimney open; let no draught blow upon the patient, but keep the air constantly changing. The atmosphere is filled with poisonous influences from the disease, coming from the skin, the breath, and the secretions of the sick person; and this poison must be removed by free currents of pure air through the room, but not over the patient.

The bed.—This should be protected with a rubber-cloth across the mattress, then the under sheet, then the draw sheet, the upper sheet, and a light blanket when needed; no quilt. It is a mistake to suppose that warm bedclothing must be used and a free perspiration kept up. A *moist* skin is, however, very desirable, and will be more likely to be promoted by cool bathing than by warm bedclothes. On no account allow a patient to be put on a feather bed; and when it can be secured, use only a small, rather hard pillow; with a large, easily-compressed feather pillow the head is kept too warm, and, sinking into it, the air is cut off from the lungs, which should have free play. Arrange the pillows in such a way that the chest is expanded, the shoulders being supported.

Cleanliness.—Three times a day or oftener sponge the entire body with warm or cold water as ordered, adding to a basin half full one ounce of alcohol. Carefully wash all the creases of the skin, particularly those parts which are soiled by the excretions. Neglect in this matter for a while cannot be made good by after-care; bed-

sores are particularly apt to form where there is not absolute cleanliness; and as there are frequently involuntary passages from the bowels, a careful watch must be kept both of the person and clothing, that everything may be clean and dry. Having made the bed and body clothing clean, every precaution must be taken to *keep* them so; for this reason use folded soft cloths about the patient and as draw sheets across the bed; these are easily removed and changed without exhausting the little strength which you are trying to husband for the sick person. Besides the more general bathing, the face and hands must be repeatedly sponged during the day. Put a small piece of ice in a sponge and pass it across the forehead now and then. Dip a soft thin cloth folded once in some evaporating lotion like alcohol and water, and lay it across the temples, changing it before it becomes warm. All this serves a double purpose,—it is cleanly, and it has a tendency to lower the fever which is consuming your patient.

Care of the mouth.—In neglected cases of fever a black crust will form across the lips and teeth; to prevent this, three or four times a day wash the mouth and teeth and tongue with cool water and a soft rag; if the skin is broken, add to a tumbler of water a teaspoonful of chlorate of potash or borax; if the skin is unbroken, salt and water in the same proportion, or a slice of lemon rubbed across the teeth and about the mouth, will answer very well. This cooling and cleansing of the mouth is of the greatest comfort to the sick.

Care of the room.—Besides the attention given to the patient and bed, care must be taken that the room and its furniture are scrupulously clean,—no soiled towels, napkins, or other articles must be allowed hanging about. Keep in the bedpan or vessel used two or three ounces

ot carbolized water, page 19, and throw a towel over it the moment you remove it from the bed, covering handle and all; this not only keeps the air of the room from being contaminated, but prevents the nurse from breathing poisonous exhalations. Typhoid fever is more readily conveyed by these exhalations than in any other way. Carbolized water should be thrown down the water-closet daily.

Changing the clothing.—The night-clothes must be changed morning and evening, and the sheets twice or more,—do this as directed, page 22. When the strength of the patient will permit, he should be lifted into a fresh bed for the night, while the warm and damp mattresses in use all day should be carried out and aired.

Never allow your patient, even in the first week of fever, to get out of bed, to stand up, or to exert himself in any way while clothing is being changed.

By the use of a bedpan and urinal all need for exertion is avoided.

Changing the position.—As the fever goes on there will be a disposition on the part of the patient to slide down in the bed and to lie in one position; watch against this, keep him well up on the pillow; turn him from one side to another, putting a pillow snug against his back to support him. These changes are necessary, because long lying in one position will make the spot on which pressure comes tender, and bed-sores may form. Examine the back and hips and heels daily for redness, and when it occurs bathe the place daily four times, in alcohol and water, dry thoroughly, dust with powder, and use air-cushions.

Medicines, food, and stimulants.—In giving medicine you have only to follow your directions, and report exactly any change of symptoms observed following the dose, and the same with the stimulants.

In feeding, all your ingenuity will sometimes be needed to make the patient take the beef-tea, milk, etc. Generally if beef-tea is quite cold it will be taken more readily by very sick persons, and when there is a tendency to diarrhœa it should *never* be given warm; try the several preparations mentioned, page 36. The kinds of food that may be used are usually specified by the physician, and will be gruels, milk, beef-tea, etc. In extreme cases beef-tea of the strongest kind and milk-punch are given alternately at intervals of an hour, half-hour, or less, as the doctor directs; and usually nothing more is required. When brandy or wine is ordered, do not allow the doctor to leave you to your own judgment as to the quantity; request him to say how much of either he wishes given in twenty-four hours, and then give it either as a cool drink with ice-water, or in milk, in broken doses through the specified time.

In case of faintness, or exhaustion after purging, or a chilly feeling that cannot be relieved by an extra blanket and hot bottles, a nurse is justified in giving on her own responsibility a tablespoon of brandy in a wineglass of hot water, slowly, to an adult, and a teaspoonful to a child.

Cold water.—If the physician has no objection, as much cold water as the patient wants to drink may generally be given with safety; it is needed to supply the waste through perspiration. Iced carbonic acid water, procured in siphons from the drug-shops, is better for quenching thirst, and is slightly stimulating. Thin, cold arrowroot or barley, or toast-water iced, may be substituted if there is trouble with the bowels. Patients too ill to ask for water or cooling drinks, must be given them frequently in a feeding-cup. Never commit the sin of letting the patient go without them. Small bits of ice are refreshing, but do not take the place of water. A cup of tea prepared

as the patient likes it in health, and poured over cracked ice, is very refreshing and harmless. Sick persons frequently prefer to have the sugar omitted.

Delirious patients.—Never leave such a patient alone; never contradict what he may say; accompany him to the moon if he wishes it. Never speak loud to him; he is not deaf because he is delirious. Keep him in bed; if there is no other way, lay a long folded draw sheet across the blanket, and tuck it well under the mattress on either side. A slight delirium need not excite alarm, unless it is of the low muttering kind, accompanied with pulling at the bedclothes or reaching of the arms up into the air after some imaginary object. Confusion of thought, loss of recollection of recent events, an anxious look, and a wandering and vacant eye are to be dreaded.

Some of the dangers of the fever.—Diarrhœa, internal hemorrhage, perforation of the bowels, and pneumonia are all to be dreaded and guarded against by implicitly following the doctor's directions, by avoiding any check of perspiration through direct draught, by keeping the patient *perfectly* tranquil and quiet, and without mental or bodily exertion or excitement of any kind from the moment that the disease is declared.

During the second week sometimes, and even as late as the fifth or sixth, when everything seems to be progressing well, death may occur simply from incaution on the part of the nurse in permitting the patient to sit up or make some seemingly harmless exertion, or to eat harmless food in too large quantities.

In convalescence the patient's appetite is very large and must not be indulged. Give him nourishing food (not solids until distinctly permitted by the doctor), and give them in small quantities frequently; once in two

hours if necessary. Dyspepsia is one of the accompaniments of typhoid fever, and more food than can be assimilated at one time is very dangerous; a moderate indigestion, a trifling diarrhœa, a slight nausea, should therefore be at once reported to the doctor. It is dangerous, because any violent straining may induce perforation of the bowels at the point of ulceration.

The strength must be considerably advanced before going out-of-doors is permitted, but fresh air should be secured as directed, page 20. When the doctor allows a drive or short walk, only bright, dry days should be chosen for several weeks after convalescence is complete.

Scarlet fever or scarlatina.

When to the feeling of general illness which accompanies all fevers is added a very rapid pulse, 120°–130°, and a temperature of 100°–104°–105°, and there is a dry, hot feeling in the throat, with tonsils red and swollen and distress on trying to swallow, it is safe to suspect an infectious disease, and probably scarlet fever. The sick person should be isolated at once in a room as much apart from the other members of the family as possible; the higher up in the house the better, and the doctor sent for.

The rash generally appears about the second day, beginning on the neck and extending over the whole body, the deepest color being on the neck, the outer side of the limbs, the joints, hands, and feet. The cheeks are a bright deep red. The case having been declared to be scarlet fever, all the precautions given for infectious diseases, page 152, should be observed, and the smallest order of the physician strictly carried out.

Ventilation.—The room should be kept at an even temperature of 65°; light a fire, if possible, and leave

the window down an inch at the top. Throw the window open and change the air entirely twice a day, covering the patient, head and all, at the time and until the room is again warm. Do not be afraid of fresh, dry, outside air, but be sure that your patient is covered head and all, so that no cold air is breathed, while you are airing and warming the room.

Bathing.—Give the patient two or three times daily a warm sponge- or plunge-bath as directed, being very careful that he is covered with a blanket during the bathing, thrown over the bed or tub; dry quickly with warm soft towels without rubbing, and as the patient lies in bed, rub the entire surface of the body with vaseline or whatever oil the physician orders.

Bedclothing should be warm but never heavy; keep the feet and legs warm.

Food.—Gruels, simple broth, milk, etc., are generally enough. Where there is exhaustion from the fever the doctor will give orders as to strong and stimulating nourishment. Abandon the notion that the fever is increased by such food; life will depend upon its careful administration. Cold water or weak lemonade may be given freely unless the doctor orders differently.

Quiet.—Keep the patient strictly in bed; make use of bedpan and urinal to prevent getting up. Guard in every way against a check of perspiration. If the patient is propped up in bed, see that a short jacket or small shawl is put over the night-dress, but use nothing that cannot be washed.

Things to watch.—Notice the breathing at night or in sleep, whether it is even and deep, or short and labored, as if there were trouble with the air-passages. Be particularly watchful of the condition of the excretions, especially of the urine; should it become scanty or

smoky-colored, report it at once to the physician. Observe whether there is a free, though seemingly harmless, discharge from the nose; this may indicate diphtheritic trouble. See whether there is any swelling of the limbs. In short, there is nothing which must not be observed with care and reported accurately to the doctor. Use disinfectant (page 156) in the vessels.

Peeling.—The skin becomes dry, and generally begins to scale off about the fifth day after the rash appears. No patient should be allowed to leave his bed until this process is completed. The warm baths should be kept up, the least chilliness guarded against, and the temperature of the room allowed now to be 70°. After the peeling is over the patient should still remain in his room for two weeks, and should be separate from other members of the family not less than a month from the commencement of the disease. Very severe cases of scarlet fever may follow from exposure to light ones. See that the patient is well wrapped up, with hands and feet protected, on first going into the open air.

The dangers from scarlet fever.—The troubles which may rise out of an attack are frequently the result of carelessness on the part of the nurse, neglect of orders, exposure to cold, etc. There cannot be too much care taken of the lightest case. A bad attack will compel attention, but "slight cases," so called, are often neglected, with fatal results, or life-long deafness or other disability. Dropsy, malignant sore throat, diseases of the kidneys, weakness of the lungs, pleurisy, and many other maladies lie in wait for the scarlet fever patient.

Smallpox.

All children and adults in an intelligent community are, of course, vaccinated; but it is safe to repeat the pro-

ness whenever there is any alarm about recent and neighboring cases of smallpox.

Symptoms.—The disease generally begins with a chill, followed by quick pulse and high temperature,—104°–106°. The distinctive symptom, however, added to these, is severe pain in the back and pit of the stomach, which increases on pressure. These troubles may abate for a while, but they gradually increase, and are at their height on the third day, or twelve days after exposure to the contagion. The eruption begins about this time, as small pimples, spreading from the face to the neck and breast and back, and then to the limbs and extremities. The pain passes off when the eruption is developed, and the patient feels pretty well; but the discomfort will increase again as suppuration begins, and the secondary fever, sometimes announced by a chill, comes on. The temperature rises to 105°–106°.

The nursing.—The fever and the eruption go hand in hand, and although the patient may feel some relief on the appearance of the pimples, he is to be treated as a very sick person through the whole course of the disease.

Keep the room dark on account of the eyes, which suffer, and ventilate it fully with open windows. Let its temperature be 60°–65°. Let the bed-covering be sufficiently warm, but not heavy.

Give broth, gruels, milk, etc., as food, and cold water or lemonade to drink. If cold compresses are ordered, re-wet them by pouring fresh water over the cloths frequently.

Scars.—The eruption has to take its course, but various ways for preventing scars are prescribed, such as keeping the face covered with oil, or, better than this, having strips of thin linen spread with simple cerate and fitted carefully over the face. Whatever applications are or-

dered, they are to be faithfully used, and the patient is to be prevented from scratching the surface, even in his sleep. To accomplish this, it will generally be necessary to tie the hands up in soft cloths, so that at least the nails may be kept from the face. When there is delirium or unbearable irritation, the only thing to do is to use a shirt with very long sleeves, which you tie together at the wrist.

Dangers in the disease.—Watch all the symptoms carefully, and report promptly any light-headedness, sudden exhaustion, or difficulty in swallowing; notice the manner of breathing and sound of the voice. Pleurisy and laryngitis are among the complications which may occur. If during the decline of the eruption, and while the secondary fever is in progress, there is a clammy sweat and sudden sinking or tremor, give wine-whey or a half-ounce of brandy, without waiting for orders. If the pustules sink or change to a purple color, give the brandy in hot water, or some hot spiced drink freely. In either case, let the doctor know at once of the symptoms. In general follow all directions exactly, and report any changes carefully.

Disinfecting and isolating.—The carpet of the room should be taken up the first day that the disease is recognized. The mattresses will already have become infected, and must not be changed. All the directions given for preparation of the room, etc., page 152, must be followed; the door must be locked, and no communication had with the room except through an adjoining one, where the window is down at the top and a fire, if possible, lighted.

When things are required,—food, medicines, clothing, etc.,—the request for them should be written on a slate, which should be hung or stood where it can be read without taking it down. Whatever is ordered should be

brought to some place agreed upon, and left for the nurse to carry to the room. All bed and body clothing must be of the oldest kind, so that it may be destroyed when done with.

When this clothing is changed it must be thrown by the nurse into the disinfectant for clothing given, page 156, and which is kept standing in vessels in the adjoining room for the purpose. Wooden tubs, which can be broken up and burned afterwards, are best. The clothing should soak twelve hours. It can then be dipped out with a stick and put into a strong hot soapsuds made with carbolic soap, and when so rinsed for two hours may with safety be wrung out and made into bundles, and tossed out of the window into the yard to be dried in the sun. The articles can now with safety be ironed by any one. The nurse or her assistant should do the preliminary soaking and rinsing, both of her own and the patient's clothing and bedding. Only those engaged with the case should handle articles used about the patient.

The nurse must protect herself by vaccination, by cleanliness of clothing, by good food, and sufficient rest, being relieved by an assistant if possible. If it is essential that she should leave the house, she must keep a suit of fresh clothes for the purpose.

After the disease the mattresses may be rolled in fresh clean sheets and given to the pest-house; or should there be no such place at hand, they must be rolled up and burned in some convenient place. Should there be a board of health in the town, it is their duty to dispose of the beds and direct the disinfecting of the house and room. All blankets must share the fate of the mattresses and pillows. The entire room and its adjuncts should be cleaned after disinfecting, as directed, page 155.

There is no disease more contagious than smallpox;

it has been conveyed by infected articles carelessly put aside and opened years afterwards.

Chicken-pox.

This is a harmless though annoying trouble. It is accompanied with a little fever and general discomfort. Keep the child housed,—separated from the other children; let the air of the room be fresh, and the temperature even, at 65°–70°. Give broth, gruels, and milk for the first few days. The eruption begins on the first to the third day, and is thickest on the back and breast. Let the clothing be loose, so that there may be no irritation from rubbing. The trouble will be over in two weeks or less. The room must, of course, be well cleaned and mattresses sunned.

Measles.

This disease begins like a severe catarrh, and with a redness and tenderness of the eyes, the light being painful to them. There may also be a croupy cough. The temperature rises to 101°–102°, and the rash appears. Do not try domestic treatment; always send for the doctor.

The rash appears on the third or fourth day, and commencing on the face, about the mouth and eyes, quickly spreads over the whole body.

Nursing.—The care of measles does not differ materially from that of scarlet fever; it is a much less malignant disease, however, and if the necessary precautions are observed will pass off generally in two weeks. Fresh air, even temperature, tested always by the thermometer, and *not* by the feelings of the nurse; warm bathing daily; great care against getting chilled; simple food, without solids, for a while; cool water to drink, and a room shaded from any bright light, are all-important in the care of the case.

The patient must be kept in bed as long as there is any indication of fever. All clothing when changed must be aired and warmed. While the peeling process goes on like care must be taken. Exposure to draught and cold may bring on pneumonia. As long as there is any trace left of the measles-catarrh the patient must keep in his room.

This is one of the diseases, as is also scarlet fever, in which the doctor will ordinarily give very little medicine, but for which old women of both sexes will propose any number of "sure cures," including a variety of unclean applications. No sensible person will, of course, listen to this mischievous talk or deviate in the least from the directions given by the doctor.

Dangers in measles.—The disease often brings on or leaves behind it pneumonia, weakness of the lungs, and bronchial catarrh, and for months after seeming recovery the slightest disposition to cough or cold should be brought to the attention of the doctor.

Spasmodic croup.

The disease is an affection of the muscles of the windpipe, without inflammation. It is one of the common troubles of childhood as late sometimes as the twelfth year. It may also occur with adults. Relapses are usual, but in the intervals the patient shows little or no sign of illness.

The spasmodic attacks almost always occur at night. The child being put to bed apparently well, wakes suddenly with a croupy cough and violent choking fit, sits up in bed with an anxious face, and has great oppression in breathing. All these symptoms yield readily to treatment, and pass off in about two hours, the child falling into a sleep and free perspiration, and waking with but

little sign of the attack. The trouble will, however, probably recur at night, and not disappear entirely for from three to eight days. Every precaution must be taken with simple spasmodic croup, for it is sometimes followed by capillary bronchitis, which, in children, is an extremely dangerous disease.

On the first appearance of the attack send for the doctor, and until he comes give syrup of ipecac, half a teaspoonful to a child under one year, and half more to an older child, a teaspoon and a half to a child of two years; increase the dose a little for an older child, and repeat it in twenty minutes in any case if no vomiting occurs, the object being to produce vomiting, but not violent retching. The care following the attack must be to keep the child in a room where the thermometer stands at an even temperature of 70°, and not lower than 65° at night; exposure to changes of temperature in passing through entries or other rooms must be avoided. The clothing must be warm. The food: gruels, broth, and milk. There must be no going out-of-doors until all croupy sounds in the breathing are over,—that is, in from three to eight days. Damp and windy weather should always be avoided for croupy children.

Membranous croup

is a very dangerous and usually fatal disease of the throat, characterized by inflammation of the mucous membrane lining the larynx and trachea, and in which there is an effusion of fibrin, which coagulates on the mucous surface and forms a false membrane. The disease in its commencement is sometimes mistaken for the simple form of croup. The child may wake suddenly with a croupy cough and strangling fit; or, in other cases he may not seem well, there may be all the symptoms of cold in the head

for a day or two, and the trouble may pass for that until the doctor is called too late.

Membranous croup, however, unlike the simple form, is accompanied from the first with increasing fever, and here the clinical thermometer shows its value for families of children; the fever can be detected at the outset and its gradual increase known. If the cold in the head continues, and the thermometer, having been applied morning, noon, and night for one day, shows a gradual rise in the temperature, especially if it is a little higher on the morning of the second day than on the morning of the first, do not wait for the child to be really ill before taking active measures. Keep the patient in the house, and in one room for a day, being careful about exposure to draughts. Omit the plunge-bath; sponge carefully instead in tepid water, and dry quickly with warm towels. If the breathing is oppressed, give the dose of ipecac prescribed for simple croup, and should no improvement follow, and should the temperature still remain high, send for the doctor without waiting for croupy sounds.

The symptoms which follow the increased temperature in membranous croup are loss of appetite, thirst, quick pulse, husky voice, gradually diminishing to a whisper. The breathing comes as a sort of whistle, with increasing effort, and there is constant restlessness.

The nursing will consist in keeping up assiduously whatever remedies are ordered, and in sustaining the strength as long as possible. The atmosphere of the room will be ordered kept either dry or moist; whichever plan is decided upon must be rigidly adhered to: no change in this matter is admissible when the treatment has once begun. To secure moisture tea-kettles of water may be kept boiling in the room over spirit-lamps if there is no

other way. When there is a fire or heat from a furnace, sheets should be wrung out in water and dried in the room. Keep unpainted wooden tubs of water about the room; from time to time drop lumps of quick-lime into them; some physicians attach importance to the vapor which rises. The child can be easily made to inhale vapor from a steam nebulizer or kettle; it can be introduced at the small end of a funnel made of stout card-board, the larger end being put over the child's face, but without touching it. A sleeping child will in this way take in the vapor even better than when awake.

The pillows must be arranged so as to lift the shoulders and expand the chest. The child's chin must not press upon its chest.

But little food can be taken, and consequently that must be of the most nourishing kind. Beef-essence, milk-punch, milk with the white of an egg in it, one egg to every half-pint, well shaken. Give cool wine-whey as a drink, and water without ice. Lift the child and ease its position. It may be taken out of bed and held upright in the arms, or carried about the room. Keep up till the last moment the treatment ordered. Be careful always not to inhale the child's breath or to run risks from particles of membrane which may be coughed up suddenly into the mouth, nose, or eyes of the nurse.

The last resource in cases of this kind is tracheotomy, an operation on the windpipe, opening a passage to the lungs below the point at which the membrane has formed. The results of this operation are often so unfavorable, and so large a proportion of children die in spite of it, that no parent need feel that the child was lost because it was not attempted. If all the precautions have been taken, and the doctor's orders strictly followed out, there is no need for self-reproach whatever the result may be.

Tracheotomy.—The operation having been decided upon, get ready quickly a firm, small table, which will easily hold the child, and from either side of which the doctor can get at him; a flat, low pillow or sheet folded up small for the head; a narrow piece of tape, scissors, needle, and strong thread, towels, soft sponge, tepid water, a basin, a fan. Loosen everything about the child's throat and chest; slip his arms out of the sleeves; and see that all the light that can be had is thrown upon the table.

While the doctors are at work get ready a fresh, warm night-dress and flannel wrapper for the child, and put the bed in order. The operation successfully performed, and the tube introduced, the child who a moment before was choking to death sits up, breathes freely, and all the terrible symptoms pass off for the time. The danger is by no means over. Constant care must be taken to keep up the treatment ordered; moist air must be continued, and medicines and food regularly given. Above all, the tube must be kept perfectly clean and free from the membrane which will be deposited in it. Once in an hour, or two at most, remove the inner tube from the outer case and throw it into a basin of warm water. A strip of soft linen must be pushed through it with a stick so as to drive out every particle of the deposit. All membrane found in it must be left in the basin for the doctor's inspection; have two basins, keeping one for this purpose only.

The edges of the wound must be watched, and the slightest tendency to formation of membrane reported. The creases of the skin under and about the tape which holds the tube in place must be oiled to prevent chafing. Take care that the skin is not broken or irritated on other parts of the body as well.

Take special care that the mouth of the tube is not obstructed by the clothing or bedding, or any particle of

dust or fluff, and that no drop of water is spattered into it.

Four or five days will determine the result. Recovery even after the utmost care is the exception. The membrane forms below the wound or in the lungs, and suffocation follows.

Cases of bad croup may indicate faulty drainage, or other contaminations of air or water; and attention must be given to these matters when the disease occurs.

All the other children of the family should be kept as far as possible from the room, and special care should be given to their general health; their food must be nourishing, their clothing warm, their sleeping-rooms well ventilated; and when there is any disposition to sore throat, it should be reported to the doctor. They should on no account see the child that has died, or return to the nursery until all the precautions for disinfecting and cleaning (see page 153) have been taken.

Diphtheria.

Diphtheria is considered to be a poisoning of the blood, and is generally due to bad drainage, either of the houses or neighborhood. It is accompanied with the formation of membrane on the mucous surfaces. The disease begins like so many others, with a feeling of general depression and feverishness; there is what seems like a cold in the head, a hoarseness, slight difficulty in swallowing, stiffness of the neck, and *swelling of the glands* about the throat; when this swelling occurs, send for the doctor without waiting for other symptoms than those given. White patches on the tonsils and back part of the throat will follow if diphtheria is really present. On suspicion of the disease isolate the patient and keep him in bed; allow no one to come into the room except one attendant. Keep the

thermometer at 65°–70°. Light a fire if possible, put the window down at the top two inches or more, and keep it so day and night. Send for chlorate of potash, and dissolve as much as you can in a tumbler of tepid water, to be used freely as a gargle. Have some strong beef-tea prepared at once by rule 6, page 37, and until it is ready give the patient as much milk with the white of an egg in it as he will drink, in the proportion of one egg to half a pint. These precautions will probably save the patient from more severe sore throat if his trouble is not really diphtheria, and should this alarming disease have overtaken him, you will have done all that you can do without further instructions. From the moment that you receive the doctor's orders in a case of diphtheria, carry them out as if life depended upon you alone. Never relax your efforts to give medicines, food, and stimulants, no matter how hopeless the attempt seems to you; and do not be betrayed into carelessness by what you think an abatement of the symptoms. Use all the precautions against the spread of this contagion given, page 153.

Discharges from the mouth will probably be excessive; clear them away as quickly as possible, using only soft rags which can be destroyed. Wash the lips and chin which are touched by the discharge with the chlorate of potash now and then; keep them covered with vaseline or a little oil; examine the skin everywhere, and if broken or chafed, treat in the same way. The membrane is liable to form wherever the skin is broken.

Throw all soiled rags directly into the fire, if there is one in the patient's room; if there is none, put them in a covered jar or pail in which there is an ounce of chloride of lime and a gallon of water; let them soak until they can be carried away in the jar and burned in the open air.

Food.—Give only concentrated food: beef-essence or beef-juice, page 37; egg-nogg; custard made thin enough to drink, one egg to half a tumbler of milk beaten up and uncooked; coffee with plenty of milk, etc. Nourishing enemata will be ordered if necessary. Give the food once an hour, and oftener if the strength is failing. The doctor will direct this; ask him about it. If brandy is ordered, give it in milk, that is so much more nourishment supplied. Wine-whey can be freely taken if stimulants are allowed, and given cold it is very refreshing.

If the atomizer is to be used for throwing spray into the mouth and nose, hold it at a distance, if the patient is a child, until he becomes a little accustomed to it. The child can inhale vapor when asleep even, through a large funnel held near the face, the small end being fitted over the spout of a kettle in which the steam is generated.

In convalescence the care is not to be relaxed; the patient is not to leave his bed for any purpose, or even to sit up in it until the doctor has given permission. Paralysis of the heart may result from want of care in this matter. Sudden deaths *in convalescence* from diphtheria are not uncommon.

The food may be gradually changed as the patient improves; when meat is allowed, cut it small; the throat and the power to swallow are affected for a long time afterwards in some cases by partial paralysis.

The nurse must protect herself by not inhaling the patient's breath, or running risks from the sudden coughing up of mucus or membrane; she must have nourishing food and sufficient rest.

After recovery, disinfect and clean the room as directed, page 153.

Whooping-cough.

The disease begins with symptoms of an ordinary catarrh, lasting from ten to fourteen days, and then the peculiar cough commences. The paroxysms are more severe at night than during the day. During the spasm the child should be lifted up, and given as much air as possible.

The disease is generally harmless, but a physician should be consulted because of complications which may arise. Trouble from determination of blood to the head and bronchitis are not uncommon.

Regulate the diet, give the child unstimulating food, and keep the bowels moderately open. Let the clothing be warm in cold weather, protecting the chest and arms. Keep as even a temperature as possible, the air of the room at night being no colder than that in which the day has been spent. Do not send the child out-of-doors on windy or damp days, but in favorable weather keep him out all the time. When with young children during the course of the disease a squint is noticed for the first time, or there is a convulsion or stupor, send for the doctor; and in the case of the convulsion, give a warm bath while waiting, and apply cold cloths to the head. Should it be noticed that the cough becomes more frequent and the expectoration less, the breathing between the paroxysms difficult or panting, while the whoop gradually ceases, it is probable that there is inflammation of the air-passages, and the child needs immediate care. The ordinary course of whooping-cough is from six to twelve weeks.

Pneumonia

is an inflammation of the proper substance of the lungs. The disease generally announces itself with a chill or

chilly feeling, which lasts from half an hour to an hour or two before a sensation of heat can be produced. The temperature will rise on the first day, and sometimes reaches 103°–105°. There is pain in the back and loins, and loss of appetite and flushed face. The first decided symptom of pneumonia will be shortness of breath, so that only short sentences are spoken without the need of breathing, and there is a "stitch" in the side. Do not postpone sending for the doctor, especially if the patient is old, feeble, or a child.

Nursing.—Keep the temperature of the room the same night and day, and at 65°–70°; do not let it become cool and then try to remedy this by excessive heat, and, equally, do not let it be overheated and then cooled. Change the night-dress morning and evening, keeping two in use; warm all the bed and body clothing when changed. Use warm water for bathing the patient, and keep him covered during the process, drying at once with warm soft towels. Never turn back the bedclothes so as to expose the patient, even for a moment. Keep him well supported by pillows under the shoulders, the breathing is easier for this support. Put an extra wrap about the shoulders which are exposed by this upright position. Take care that the feet and legs are warm, and guard in every way against draughts and check of perspiration.

If a jacket-poultice or leeches are ordered, see pages 45 and 51.

Things to notice.—Watch the expectoration; use a sputa-cup, if possible, instead of cloths. An iron-rust color is common rather than clear streaks of blood in the mucus. Keep the expectoration for the doctor's inspection; absence of it at the commencement of the disease is unfavorable. Observe the breathing during sleep, and

whether the patient feels pain when lying in one position rather than in another. Notice the character and quantity of the urine, and report all these things to the doctor. All the symptoms will increase in severity during the first week, and the critical day will, in ordinary cases, occur at its end. The amount of food taken will be very small, while the strength will be greatly reduced by the progress of the disease; it is therefore necessary to give the most nourishing articles in concentrated form,—milk, with white of egg, custards, beef-essence, strong chicken-tea, egg-nogg, etc. If lemonade is allowed, make it by using flaxseed-tea *thin*, cooling it, and adding the lemons and sugar. Wine-whey is suitable and nourishing as a drink. Ask the doctor for further directions as to feeding, and whether the drinks shall be cold or warm. The patient should have a little food at short intervals. Not more than two hours should pass without it, if there is much weakness. When solid food can be taken, let it be very tender mutton or beef. Sandwiches made very small and thin, of *raw* beef scraped, and a saltspoonful of potted ham or tongue added, will sometimes be taken, and with a glass of milk will make a nourishing meal.

Cholera morbus.

The disease is caused by the use of indigestible food, stale meats or fish, impure drinking-water, etc. There is vomiting and purging of liquid matter and bile in quantities. Violent pains in the stomach, cramps of the legs and muscles of the abdomen, coldness, faintness, and tendency to collapse. The attack comes on suddenly, and a physician should be sent for at once, especially if the patient is an old or feeble person.

Nursing.—Do not at first try to check the vomiting and purging, nature is in this way getting rid of an irritant;

but should the skin be cold and the pulse feeble, give a tablespoon of brandy in a wineglass of hot water. To relieve the pain, put a mustard-poultice over the bowels, mixing it with *hot* water; or wring out a flannel in hot water, sprinkle it with oil of turpentine, and apply. The turpentine will blister as soon as mustard, and must be watched. Rub the legs vigorously if there is cramp, and keep the patient in bed, with hot bottles at the feet, should they be cold. The attack is very seldom fatal, but is prostrating, and light but nourishing food will be necessary after it: milk and rice gruel, strong broth, beef-tea, and eggs, if allowed, etc. The return to solid food must be gradual. Should the bowels not move readily, an enema of warm water and olive oil will probably be ordered.

Diarrhœa.

The word signifies to flow through, and the disease is characterized by profuse discharges from the bowels. The trouble may be brought on in various ways, the commonest being imprudence in eating or drinking. Unripe fruit, badly-cooked vegetables, impurities in drinking-water, over-fatigue, and sometimes grief or fright, may produce the disease. Perfect rest in bed, and fasting entirely for a day, will generally result in a cure. This gives the stomach time to rid itself of the irritating substances, and the intestines are rested by having no work to do during the fast. Fresh food should never be put on top of that which is causing the trouble. When, after the rest, the patient begins to feel hungry, give well-boiled rice and milk, or corn-starch gruel, or arrowroot, and return slowly to solids. Should the trouble continue in spite of this treatment, and especially if the weather is hot and debilitating, a physician should be consulted.

He will probably prescribe a little castor oil and laudanum or chalk mixture. Avoid hot drinks for a few days.

Dysentery.

The disease is inflammation of the mucous membrane of the larger intestines.

Symptoms.—These are griping pains in the abdomen; blood discharged from the bowels; constant desire to use the night-chair; and straining. Some of the worst forms of dysentery commence with diarrhœa. Always consult a physician.

Nursing.—Keep in the vessels, disinfectant, page 19. Every evacuation should be at once carried from the room. The air must be kept fresh by free ventilation. Chloride of lime, which is more easily obtained than anything else, must be mixed with water on a flat plate and stood a little way from the bed. Change the sheets and clothing daily. If an enema is ordered, do not give more than four or five ounces of fluid at a time. Put a *wide* flannel bandage round the abdomen. Keep the patient flat on his back and perfectly quiet until all traces of the disease are gone. The food should be boiled; milk given *cool,* or simply uncooked milk; and gruels of corn-starch or rice-flour or arrowroot, not too hot. Nothing more stimulating than this should be given without the doctor's permission.

Give all medicines promptly. Some physicians direct that very cold drinks should be avoided, while others order cracked ice. Ask for orders in this matter.

Gastritis.

Gastritis is inflammation of the mucous membrane of the stomach, causing pain of a burning character at the pit of the stomach, vomiting on eating or drinking, and

sometimes hiccough. The pulse becomes small and fee ble; the patient is pale and faint, with cold extremities and damp skin; the movements of the diaphragm cause pain, and consequently the breathing is short; there is tormenting thirst at times, although the water drank is vomited at once. The disease may be brought on by taking any substance into the stomach which is in itself poisonous, or becomes so because of the particular conditions under which it is taken, as quantities of cold sour drink taken when the body is very hot and there is perspiration; large amounts or great variety of food taken at one time, when the constitution is feeble, or there is convalescence from serious illness, such as typhoid fever, may produce the disease; and it is sometimes brought on by imperfect mastication of harmless food. The doctor should be called on the appearance of the symptoms, and his directions implicitly followed.

Nursing.—Keep the patient at rest, absolutely, in bed. If cold water can be retained, it is safe to give it as a drink. If enemas are ordered, give them gently, and disturb the patient's position as little as possible. The feeding will sometimes be left to the judgment of the nurse, with the general direction to give food in small quantities; and here the nurse should understand that when the doctor has done all that he can, the life of the patient will not unfrequently depend upon her patience and prudence in administering food.

If there has been vomiting and inability to retain any food, do not offend the weak stomach with the quantity or quality of what is offered. Confine the diet to milk diluted with lime-water, two tablespoons to a half-pint of milk. This will give you all the nourishment you need to begin with.

Give a teaspoonful once in half an hour. If it is kept

down for two or three hours, increase the dose to a dessertspoonful. Gradually increase the dose and lengthen the interval until two tablespoonfuls can be taken every two hours. You will have made a great gain by this time, but do not be in too great a hurry. On the slightest feeling of nausea, or belching of wind, omit the dose until the sensation has gone by.

If you can by slow degrees, after one or two days, bring your patient to take two ounces of milk and lime-water (as above) once in two hours, you may safely continue in this way for several days, feeling sure that he is getting considerable nourishment under the circumstances. It is always better to shorten the interval between the doses than to increase the quantity too suddenly. From milk you may gradually go to thin gruel, made *very smooth*, of rice-flour, arrowroot, or corn-starch and milk. Any further change must be made only with the permission of the doctor.

In giving the milk, do so slowly, and do not put more than a teaspoonful into the mouth at one time. If the patient is able to drink from a cup, put the amount for one time into a small wide-lipped one, with a handle; and raise the patient a little by passing your arm under the pillow. Where a sick person cannot be lifted a glass tube is very useful, through which the milk can be sucked. Keep the patient's feet and hands warm, and observe all the ordinary rules as to pure air and even temperature.

Peritonitis.

The disease is inflammation of the membrane which lines the abdominal cavity, and is usually caused by diseases or wounds of the abdomen, or of the organs covered by the peritoneum. Very rarely, it occurs in previously healthy persons from simply catching cold. Over-exer-

tion, straining in lifting heavy weights, sudden blows or kicks, may bring on the inflammation.

Symptoms.—These generally begin with severe pain at the seat of the injury, and a feeling of great depression followed by fever. The pain is, however, the most characteristic symptom, and is increased by any pressure, even that of the bedclothes on the abdomen. The patient lies on his back with his knees drawn up, and is afraid to speak and almost to breathe. The abdomen is puffed up, the intestines being filled with gas. There is obstinate constipation, and sometimes continued vomiting. All these symptoms become very decided in a few days, and whether the patient is to die or live can generally be determined in about a week. If by that time the pain, temperature, and pulse subside, there is ground for hope.

The nursing.—There will be but little to do beyond keeping the room well aired, its temperature even, and giving all the medicines promptly. See that the patient makes no effort whatever to relieve the bowels or to use the urinal frequently. The uncomfortable desire to do so is due to pressure caused by distention of the intestines. If cold applications are ordered, use a pocket-handkerchief squeezed out in cold water and applied very gently; cover it with very thin rubber-sheeting or oil-silk, and re-wet it always before it becomes warm. Great mischief frequently arises from carelessness in this matter; it is better not to apply the cloth than to allow it to become warm.

If the patient can bear ice, half fill an oil-silk or rubber bag with it, pounding it small by folding it in one end of a towel and striking it hard against a stone hearth. The bag must be large enough and the ice fine enough to mould themselves to the abdomen. Snow is better than

ice when it can be obtained. The weight of the bedclothes must be taken off by the use of a cradle, page 42. The patient's feet and knees can be kept warm, if necessary, with a separate wrap.

Should opium be ordered, watch the breathing, counting the respirations, and keeping strictly to the dose ordered. If exactness in giving medicines is of great importance in other cases, it is doubly necessary here.

Should convalescence take place, there will be opportunity for nursing, and too much care cannot be given to the regulation of the patient's diet and times for eating. He must eat very sparingly at first,—gruels, broths, milk, etc.,—and return to solids only with the doctor's permission. Flannel must be worn next the abdomen. The bowels should be moved very slightly daily. Too early exertion for any cause might easily produce a relapse after convalescence has begun.

Mumps.

The disease is inflammation of the parotid and submaxillary glands; it is a painful but ordinarily not dangerous thing, attacking young persons chiefly, but rarely occurring in children under one year of age. It is infectious and sometimes epidemic.

Symptoms.—There may be for several days a languid feeling and severe headache, and the trouble is recognized later by the pain under one ear, which is worse on opening the mouth or chewing; a swelling is found in the parotid gland, just under the ear, which gradually pushes out the lobe of the ear, and is soft and doughy. It may appear on one side only, or on both in turn. At its height the patient can hardly move the jaw or speak. There is some fever with the disease, but in from two to five days all the symptoms subside.

The nursing.—There is little to do beyond keeping the patient in his room and regulating the bowels and digestion. Cover the swelling with wool-wadding. Let the food be light and easily-eaten articles,—broths, gruels, eggs, and other soft things. Take no one's advice except the doctor's. Send for him, because of complications which may arise. If the swelling is hard and pulsating, the doctor should always be consulted, as the ear may be involved and the hearing impaired.

Sore throat.

Slight sore throat is a very common accompaniment of indigestion, constipation, and colds. Regulate the bowels; eat light food for a day or so, avoiding solids; gargle the throat with chlorate of potash as much as a tumbler of tepid water will dissolve; stay in-doors and at rest for a day; avoid hot, unventilated rooms by day or night; keep the feet warm; use cold water freely about the throat every morning, dashing it over the neck, and wring out a crash-towel in strong salt and water, and rub the throat and chest well. The sore throat will probably vanish in a day or two with this treatment. Should it not, and if there is a feeling of increasing feverishness, the doctor should be consulted.

Cerebral apoplexy

is caused by rupture of blood-vessels, or an effusion of blood into the tissues of the brain. No age is exempt from it, though it is more common after than before forty.

Symptoms. — The attack comes either as a sudden seizure, the patient falling to the ground without warning, and lying without sense or motion; while the face is flushed, the pulse free, and the breathing noisy, as in a deep sleep; death may follow at once or the patient re-

vive from this attack; or, there are warnings of the disease, such as sudden sharp pain in the head, with confusion and dizziness; the patient slides to the ground, and is pale and faint; from this condition he revives for a while, but in a short time, varying from a few minutes to an hour or so, he falls into a stupor and never wakes up. The second form of the attack is more serious than the first, though less alarming in the beginning to the lookers-on. There is no question about sending for the doctor, of course you do so in either case at once. Until he comes, with the first set of symptoms, flushed face, etc., put the patient in a half-sitting position, shoulders and head raised; apply cold cloths to the head, and loosen everything tight about the throat and body; keep the room cool and quiet.

In the second set of symptoms the head and shoulders are raised as in the first, but the patient's skin being cold you apply hot flannels to the legs and feet; give free ventilation, and if it is possible to make the patient swallow, give slowly from fifteen to twenty drops of aromatic spirits of ammonia in half a glass of water. This is all that you can do without medical advice. If the patient comes out of the attack, his diet for the future must be unstimulating. No beef or rich soups; other meats may be eaten moderately and all farinaceous articles. No malt or spirits are allowable.

Exercise must be taken daily without heating the body; no exertion made which flushes the face; and no cold or hot plunge-bath is allowable. Sponging in tepid water is best, and the head is to be kept cool by daily sponging with cold water without holding it down over a basin. Mental and bodily excitement must be avoided.

Sunstroke.

Where there has been exposure to great heat, and especially if there has been fatigue in addition, sunstroke is common. It may suddenly kill the patient, or there may be premonitory symptoms and time for remedies. Faintness, giddiness, nausea, blood-shot eyes, great heat, and absence of perspiration are among the symptoms. On their occurrence pour cold water at once over the head; apply ice or ice-water, in which is a little alcohol, all over the crown of the head and temples; put the patient in the coolest place to be found; shut out the light; fan him constantly; give an ounce of whiskey in two of ice-water; raise the head slightly. Send for the doctor.

Paralysis.

Paralysis may be caused by apoplexy, but is not necessarily connected with it. It is rather a symptom of other diseases than a disease itself.

It is a gradual or sudden loss of motion or sensation, both or either, in one or more parts of the body, and may follow various serious illnesses, injuries, poisonings, etc. Generally a first and partial attack is successfully treated. Friction, healthful living, digestible food, and electricity are the common ways of its domestic management. The doctor is responsible for the treatment of the cause of the disease. When it is long-continued, great care must be taken that bed-sores do not form.

Epilepsy.

Epilepsy is classed among nervous diseases.

Symptoms.—The patient apparently well the moment before suddenly falls to the ground, frothing at the mouth, and sometimes uttering a strange cry. The

breathing is difficult; the body convulsed; the face contorted and livid, and there is a choking sound in the throat. These frightful symptoms pass off in a while, and the patient lies stupid, recovering in a few hours at most. In a milder form, the patient loses consciousness for a moment; does not fall; has a fixed look of the eyes, and almost immediately revives and goes on with what he was about without knowing that anything has happened. Or, again, the patient may turn pale and slide down quietly without making any sound, is insensible for a while, and, then reviving, is confused and languid for the rest of the day. However severe the attacks are in any of these cases, they pass off in from five minutes to an hour or two, but may return again at short intervals, and go on in this way for a number of hours, in which case the patient is in great danger.

Nursing.—When an attack comes on, put the patient in the middle of a bed, so that he may be less liable to roll off, or if he cannot be moved, let him lie on the floor; raise the head, unfasten all the clothing; put a handkerchief, made into a small tight roll, between the teeth to prevent the tongue from being bitten; put cloths dipped in cold water on the head and forehead, and hot-water bottles at the feet if they are cold. Keep the room darkened and quiet. After the first few attacks, for which you have called a physician, you will understand what to do in the repeated seizures.

Children or grown persons liable to the disease should live simply; avoid all heating exercise, or going up and down stairs, or doing anything that may create dizziness. They should spend as much time as possible in the open air, and as little as possible over books and business; take a daily cold sponge-bath with brisk rubbing after-

wards; eat easily-digested and nourishing food slowly, and avoid bodily and mental fatigue.

Hysteria.—Nervous young girls are frequently subject to attacks which somewhat resemble epilepsy, and cause needless alarm unless they are understood. The attacks differ in the following particulars: hysterical patients scream *repeatedly* when the fit comes on; will not allow their eyelids to be touched, or are sensitive to the touch; seldom have involuntary passages; are drowsy after the fit, and not stupid and dull. Put the hysterical person on the bed and loosen all the clothing; slap the chest and face smartly with the end of a towel dipped in cold water. Be decided but not harsh in your manner. The hysterical fit will pass off without injury to the patient.

Fainting fits.

Ordinary fainting, due to various causes, such as close, bad air, indigestion, pain, fright, etc., is caused by an interruption of the supply of blood to the brain; it is insufficient, and so, instead of raising the head, you must lower it. Take away the pillow; let the patient lie flat; give him plenty of air; if there is pain, give a tablespoon of whiskey or brandy in water, or a little wine and hot water. A whiff of hartshorn or smelling-salts may be useful, and cold water sprinkled on the face. Nothing more is generally necessary. If the fainting turns follow each other at short intervals, a doctor should be called.

Cerebral meningitis.

The disease is inflammation of the membranes covering the brain, and is always extremely serious. Children and elderly persons are more commonly attacked by it than others, but it may occur at any age. With children, the noticeable symptoms are disturbed sleep; a cast of

rolling of the eyes, dilated pupils; convulsions. With older persons, who can tell their symptoms, there is severe headache; intolerance of light; want of sleep; mental disquietude; sometimes unnaturally acute hearing; constipation; sometimes sudden loss of speech and delirium. The doctor should be sent for without delay, the patient being meantime kept in bed, in a darkened room, from which every sound and every person except the nurse is excluded.

Cold applications will be ordered at once, and to do any good must be kept up steadily, uniformly, and over a definite surface; never for a moment being allowed to become warm. For different ways of applying cold, see page 54.

There is no need whatever for soaking the bed while keeping up the cold applications to the head. See that the patient's body is not chilled by clothing made damp through careless use of cold water, and keep his feet warm.

If leeches are ordered, see page 45.

Obstinate constipation will be one of the symptoms, and purgatives will be ordered; the object being to produce very free movement of the bowels. If the full effect of the doses is not secured, report at once to the doctor. The most profound tranquillity of body and mind must be preserved; every noise must be suppressed, and no sort of moving about in the room allowed which can in any way be avoided. No food is to be given without permission, and then it is to be of the simplest kind, such as milk, thin gruel, rennet-whey, etc. In convalescence, no visits are to be allowed; no general conversation in the room; no reading; no thinking, if possible. The room must still be shaded, and perfect rest enforced until all possibility of relapse is over. Re

lapse in such cases means death, and the attendants and family friends are the ones who are generally responsible for imprudence which may produce it.

If in the doctor's absence there should at any time be symptoms of sinking, cold sweat, fixed and glassy eyes, stupor, palsy, the nurse may give on her own responsibility an ounce of wine in hot water, or an ounce of strong beef-tea, if it is at hand; for a child, half the quantity. The feet should be warmed and the doctor sent for immediately. On no account, if the patient is a baby, is he to be rocked in a cradle or chair, or moved backwards and forwards on the knees; keep him in bed, with head raised on a thin pillow.

The kind and quantity of food must be prescribed by the physician. Milk for either children or adults will probably be all that is required for some little time.

In spinal meningitis the symptoms differ decidedly: there is excessive pain in the back, extending to the extremities. The body becomes rigid, but from time to time there are convulsive starts. Paralysis commences in the lower limbs, and gradually extends. There is nothing to do except to follow the doctor's directions carefully, and, should the case be long continued, to guard against the occurrence of bed-sores. Leeches and cups will probably be ordered at first; for their application, see pages 45 and 46.

Meningitis in children.

This is often closely connected with a scrofulous constitution, and occurs in children from a few days old to twelve or thirteen years of age. Whatever tends to aggravate the scrofulous condition tends to produce the disease, which is nearly always fatal.

Bad air, insufficient or unnourishing food, exposure to

cold, uncleanly habits, want of sufficient clothing, etc., all increase the unhealthy tendencies.

The exciting cause of the attack may be congestion of the brain, occurring in eruptive fevers, such as measles and scarlatina, or in long and painful teething; violent and heating exercise; blows and falls, even if the head is not struck; shocks to the nervous system from sharp pain, or a violent fit of anger or fright, etc.

The possibility of saving the child depends upon recognizing at once that something is wrong and sending promptly for the doctor.

Some of the symptoms.—Loss of appetite and spirits; constipation; unnatural appearance of the discharges from the bowels: they are pale and slimy, and offensive; gradual wasting of the body, not noticed in the face; drowsiness; squinting of one or both eyes, not noticed before; vomiting; unsteady gait; enlarged and glassy look of the pupils. The sleep is disturbed by sudden cries; clinching of the fist; the thumb is turned to the palm of the hand; the eye lids are half closed in sleep; teeth are ground; the head is rolled back and forth on the pillow, and the child moans. The disease may come on gradually with some or all of these symptoms, or it may suddenly appear with sharp pain in the head and fever, or with convulsions and screams, and a vacant look when the spasms are over. This last way of showing itself is generally during the decline of scarlet fever, or in whooping-cough or painful teething.

Nursing.—The child must be kept absolutely quiet in a darkened room; spoken to in the gentlest way; never rocked in cradle or chair; never walked about the room or moved backwards and forwards on the knees, and must be kept with its head high on the pillow.

Ice-bags are sometimes thought bad as applied to the heads of very young children; in such a case keep soft

linen rags soaked in ice-water, wring out and apply a fresh one before the last has had time to get warm. If leeches, purgatives, or blisters are ordered, see pages 45 and 52.

The child's food need be nothing but milk and gruels, and there must be only the gentlest lifting when necessary, and always on the pillow, the head being kept high at the time.

Several times in the course of the disease the symptoms may seem to pass away and the child to improve. The nurse must not relax her attention, however, for there is no safety for the child until, for instance, the pupils contract quickly under a strong light. About one child in four recovers from this disease, and the recoveries are among the children whose first symptoms of brain disorder are promptly attended to.

Chronic hydrocephalus.

The disease in this form is not an inflammation, but a dropsy, the watery fluid collecting within the skull, and the head being enlarged the child is top-heavy. There is no chance of not observing the sudden or gradual enlargement of the head, and a physician will of course be called in. The child should be kept in the open air, and may, with advantage, wear a woollen cap. The best milk and most nourishing food should be given it. In a majority of cases children do not recover from the disease.

Rheumatism

is characterized by inflammation of the white fibrous tissues about the joints and in the walls of the large arteries and valves of the heart.

The direct cause of a sharp attack is exposure to cold, and especially to damp cold; cases also occur where malarial poison is said to produce it,—that is, the unhealthy

surroundings of the patient develop the disease which is in his system. The acute form consists in heat, redness, swelling, and pain about one or more of the large joints, with a tendency to shift from joint to joint. Feve. accompanies the attack, and profuse sour perspiration. There is fear of the slightest motion because of the pain it may produce. Sometimes the heart is seriously involved, and there is always danger of this. The younger the person attacked, the more likely it is that there will be this difficulty. Delirium is occasionally one of the symptoms, and any light-headedness should be at once reported to the doctor. Acute rheumatism may occur at any age, but is more common before than after forty. If parents or grandparents have been subject to gout or rheumatism, this should be told to the doctor.

Nursing.—Besides following all the doctor's orders, the nurse must take great care that there is complete rest of body and mind; the pain in the joints will generally prevent motion, and everything else which can in any way excite increased action of the heart must be avoided. The temperature of the room should be 65°–70°, according to the feelings of the patient, and night and day the same. A loose flannel gown should be worn next the skin; linen and cotton when wet by the profuse perspiration become cold, and are hurtful; keep two or three flannel gowns or light blankets in use, and see that they are dry and aired when they are changed.

Support the weight of the bedclothes by a cradle. Move the patient, when it is necessary to change the sheets etc., very slowly and gently.

Do not use a rubber-cloth over the mattress: many folds of a cotton-sheet are better; and this must be firmly tucked in on all sides, or its ridges become very uncomfortable, and the patient cannot be moved to straighten it. The patient cannot be lifted in many cases for any

purpose, and the bedpan and urinal must be used. If, as is often the case, this is impossible, from nervous apprehension, inform the doctor; it may be necessary to use the catheter and syringe. The patient, if able to use the night-chair, must, when taken up, be covered with an extra blanket, and step out of bed on to a woollen shawl or some warm thing.

The temperature night and morning, and the pulse at corresponding times, must be carefully noticed, and the condition of the urine reported.

While the fever is at its height give no animal food; milk and gruels will answer until the doctor allows soups, beef-tea, or beef-juice, etc. If warm fomentations are ordered over the joints, a thin flannel—white is best—should be wrung out in the hot solution, shaken a moment, and laid over the place, and covered loosely with oil-silk or very thin rubber-cloth which comes for such purposes Re-wet the flannel before it is dry.

When there is a predisposition to rheumatism or the disease has become chronic, the patient should, if possible, live in a dry climate; but wherever he lives, he must avoid sudden changes of temperature, stay in-doors on damp, cold days, wear flannel from throat to ankles summer and winter, using gauze flannel in warm weather, and keep the skin in a healthy condition by bathing and rubbing, so as to favor all secretions.

A daily bath of tepid water in which two or three handfuls of rock-salt have been dissolved will be found very useful, and must be followed by brisk rubbing with coarse towels or hair gloves. Further to promote a healthy condition of the skin there should be daily moderate exercise, nourishing and easily-digested food, such as eggs, milk, good bread and butter, juicy meats,—roasted, broiled, or boiled, never fried,—well-cooked

vegetables, and farinaceous articles. All pastry and sweets should be avoided. The food must be thoroughly chewed and eaten slowly, so that it may be properly mixed with the saliva. The bowels should be kept regular. A healthful way of living like this will go far towards keeping back the rheumatic attacks, and lessening the predisposition to them, with their attendant train of ills involving the kidneys and heart. Never try the "infallible cures" offered by patent-medicine venders; they are invariably either useless or dangerous; the pain may disappear from one part, and the disease be driven to some vital organ.

CHAPTER IV.

TEMPERATURE—PULSE—RESPIRATION—URINE.

Temperature, pulse, and respiration are so intimately connected that anything affecting one is likely to affect the others. Pulse and respiration are, however, more readily disturbed and deviate more in sickness from the normal condition than does the temperature, but the variations of the temperature express more correctly the condition of the patient.

With children, sleep, anger, suckling, slight indigestions, etc., all cause alterations in the pulse and respiration, which are of no moment unless they continue, and are accompanied with changes in the temperature, in which case a general trouble of the system is indicated.

And the same is true of adults, with whom, though, variations of either one of the vital signs are more important than with children.

Table of the concordance of the vital signs,—temperature, pulse, and respiration.

Age	Temperature above the normal.	Pulse.	Respiration.
At birth	1– .5	120–150	40–60
2d to 3d day	.2		
7th day	2– .6		
1st month	.5	120	40
1st year	.25	105–130	30–40
3d year	.4	95–105	23–26
7th year	.21	80– 90	22
15th year	.31	75– 85	20
Adult, 21st year	0	70– 75	16–18

Any considerable deviation from these averages means

a disturbance of the health for the time or, if constant, some constitutional difficulty.*

TEMPERATURE.

The average normal temperature in adults is 98.4°–98.6°. There is a diurnal variation of sometimes 1.5°, the highest point being reached in the evening. Exercise, diet, climate, sleep, cause deviations from this standard, and in childhood the temperature varies from the adult, as indicated in the preceding table.

The importance of noticing the first variations from the known normal temperature cannot be over-estimated. A slight deviation for a day from the healthy degree is of no special importance, but should the temperature on the morning of the second day be higher than on the morning of the first, and by noon a little higher still, there is probably something wrong, and the patient should be guarded from fatigue and exposure, and carefully watched.

If the rising temperature does not show what the disease is, it does show what it probably is not. For instance, a rapid rise of temperature of three to four degrees above the healthy standard does not mean typhoid fever, but may mean measles or scarlet fever. In measles the high temperature would precede the eruption four or five days; in scarlet fever, twenty-four hours probably; in smallpox, two days. In whooping-cough the first signs of complication with the lungs would be a rise in tempera-

* Some of the statements made concerning the vital signs, together with the table of concordance, are taken from the "Manual of Thermometry," by Edward Seguin, M.D.

ture. In diphtheria there is this rise before any one thinks of looking at the throat.

Increase of temperature calls for cooling remedies, external and internal.

Decrease of temperature below the average requires warming and sustaining treatment.

The hour at which the rise or fall of temperature takes place must be noticed.

An increase, beginning each day a little earlier, is a bad sign; one beginning later promises well.

A decrease, beginning each day earlier, is a good sign; but if later each day it is a bad indication.

The duration is another important thing to consider; a long-continued high temperature without a fall is bad; a long-continued lower temperature is an encouraging thing.

A very high temperature—say 105°—is dangerous in itself, but more so if it has come on gradually as the last of a progressive series, the temperature having grown daily higher by half a degree or more, and come daily earlier by an hour or so.

A fall from such a high temperature, below the normal point,—say two degrees,—would make death probable; but a fall of not more than four-tenths of a degree below it would give time for the use of restoratives and hopes of a natural reaction.

A fall of *temperature below the normal point* is far more dangerous than a much greater corresponding rise. One degree below is more indication of a bad condition than are two and a half above the normal. The danger is first in the degree of depression, then in its continuance, then in its descending progression.

The slowly-increasing low temperature cannot fail to prepare the way for serious invalidism or death.

Besides the variations from the normal point in disease, the daily and hourly *fluctuations* of temperature are striking: it travels up and down through nearly the entire range of the thermometer sometimes for weeks, never remaining near the normal point until convalescence approaches; so that if for three successive days the temperature in the morning is found to be normal or to vary a few tenths of a degree only, and if in the afternoon it shows a corresponding rise,—of not more than one-half of a degree,—the danger may be considered at an end in acute diseases.

Temperature as a test of nourishment.

The degree of temperature is of value as a test of the nourishing properties of food in the following way: if, after a child has been fed either from the breast or by hand, the index of the thermometer shows no rise, and on giving the child food of a different kind there is a decided rise, it is safe to conclude that for this child the first food was without nourishing properties. A well-fed child will always show after a good meal a rise of a few tenths of a degree; a starved child's temperature will, after nourishing food, run up a full degree.

In convalescence, if there is no rise of temperature after eating there is no nourishment secured from the food; if there is a sudden or high rise above one degree, the food was too stimulating or bulky.

To be beneficial in convalescence food must increase the temperature a quarter to half a degree, and this must almost subside when digestion is over, though leaving a gradual improvement daily in the average daily temperature.

PULSE.

Variation from a healthy pulse does not consist simply in an increase or decrease in the number of pulsations in minute. The qualities to notice are the frequency, regularity, and fulness.

A healthy adult pulse beats steadily and evenly from seventy to seventy-five times a minute. The number of the pulsations is affected by the position of the body, being more rapid in standing than in sitting, and in sitting than in lying down.

Its *regularity* may be interfered with in two ways,—either the motions of the artery are unequal in number and force, a few beats being from time to time more rapid and feeble than the rest, or a pulsation is now and then dropped out: the pulse intermits. These irregularities may be caused by disease within the head, or heart, or stomach, or may result from debility which preludes death.

The fulness of the pulse is determined by the sensation given to the finger by the blood as it passes through the artery.

The pulse is said to be *full* if it strikes a large part of the finger pressing it.

Small, if it strikes a small part of the finger.

Hard, if in spite of firm pressure it forces its way under the finger.

Soft, when the pulsations are feeble.

Wiry, when the pulsations are hard and small, the flow feeling like a wire.

Jerking, when the blood comes with short, hard knocks.

All these different conditions are to be carefully considered when studying the pulse as an indication of disease or health.

With young children it is extremely difficult to ascertain

accurately the number of pulsations in a minute, and the important things to notice will be the regularity and fulness, which are more easily discovered.

RESPIRATION.

A healthy adult breathes from sixteen to eighteen times a minute without being conscious of the act of breathing. In sickness, the point to notice besides the variations from the healthy standard in number, are: whether the breathing is even and regular, or panting and short; whether it is from the upper or lower part of the chest; whether a full, deep inspiration can be taken without pain, and at what spot, if any, the pain is felt; whether the breathing is better in one position than another, and in which it is most distressing; whether any sound is made as the air passes through the lungs and air-passages, and what sound; whether there is a difference, and what it is, between the breathing sleeping and awake.

URINE.

Through the kidneys with the urine are drained away many of the impurities of the blood and any excess of its watery ingredients. The chemical composition of urine is constantly shifting, and even with healthy persons there are continual changes in the color and quantity of that daily passed.

The normal color is like light amber, or wheat-straw, and the normal daily quantity from thirty to fifty ounces.

It is always somewhat acid in health, and will turn blue litmus-paper red; it is most acid just before eating, and less so during the process of digestion.

The conditions vary

With age, in children the quantity in proportion to the weight of the body being nearly twice as great as with adults.

With sex, the quantity being somewhat more with females than males.

With seasons, less being passed in warm, dry weather than at other times, for the reason that perspiration is profuse and urea passes off by the skin.

With times of the day, being more deeply colored in the early morning, paler during the forenoon, and deeper again in the afternoon and evening.

With differences in food and drink, many vegetables, acid fruits, liquids, etc., increasing the quantity, and producing other changes.

With violent exercise, which causes certain chemical changes.

With mental exertion or emotion, as in over-study, anger, fear, hysteria, when the quantity of urine passed is sometimes suddenly increased.

Variations from the normal condition for a day or two are of no importance, but should they be frequent and long-continued, and especially if accompanied by other symptoms which do not occur in good health, attention should always be given to the matter. In different illnesses the variations from a healthy condition should be carefully noticed and reported; very important indications of the presence and progress of the disease are given in this way.

In preserving urine for examination by the physician, the nurse should very carefully wash the bottles in which

she is to put it, using only clear glass, and washing them first in warm and then in cold water, until they are perfectly clean. The corks should be new, or washed and scraped. A label should be attached with the date and hour at which the urine was passed, and a note as to whether it was shortly after eating or not. The nurse must be able also to tell just what was eaten, and what the mental condition of her patient was at the time, and whether any pain was felt, or difficulty in passing urine.

CHAPTER V.

DIRECTIONS FOR NURSING SICK CHILDREN.

SOME INFANTILE DISORDERS.

What can be learned by the cries of a young child.

CRIES are the only language that a baby has to express its distress, and by observation the cause of distress is often ascertained.

The cries of a baby with stomach-ache are long, loud, and passionate, it sheds a profusion of tears, drawing up its legs to its stomach, and when relieved, stretches them out again and sobs itself to sleep. In inflammation of the chest, the cry is not loud, it is often checked before half finished, and there are seldom tears, though the child is evidently distressed. In diseases of the head the cries are sharp; the child will doze quietly at times, but on waking will utter piercing shrieks.

The advantages of a warm bath given when a child is first taken ill.

The warmth of the water is soothing, and the nurse has the opportunity of carefully examining the whole of the child's body, and if there is a rash about to appear, the bath will throw it out.

Guard against unnecessary exposure. The bath may be given at a temperature of 98°, and the child may remain in the water five minutes. When taken out it should be wrapped in a warm, soft blanket for a few moments that a part of the moisture may be absorbed, and

then a portion of the body may be wiped by soft, thick towels without exposure of the rest. A warm bath is often made a source of needless distress to a timid child. Let the bath be prepared out of sight and brought to the bedside covered with a blanket; the child can then be gently let down into the water, blanket and all, without excitement.

How rashes differ.

Measles appears as a number of dull red spots, in many places running into each other, and is usually first about the face and on the forehead near the roots of the hair, and is often preceded by running of the eyes and nose and all the signs of a severe cold. *Scarlet fever* appears first about the neck and chest, but not unfrequently at the bend of the elbow or under the knee, and is usually preceded by sore throat. It can be distinguished from *roseola*, a mild disease which is sometimes mistaken for it, by the bright red color of the skin, which appears not unlike a boiled lobster.

In chicken-pox the symptom is attended by fever, the spots are small separate pimples, and come out generally over the whole body.

Symptoms of importance in the early stages of disease.

These are the condition of the body, whether warm or chilly,—whether one part is very warm and another chilly,—observe how the child likes to lie, whether flat in bed or propped up; whether the light distresses it or not; carefully mark every evidence of pain, and whether the symptoms increase as night approaches. You must be able to report exactly how the night has passed. If the child is restless, it may be from thirst or from difficult breathing. Notice the way in which the child sleeps, whether it dozes heavily, or whether the breathing is

hurried or accompanied by any peculiar sound; be very careful to observe whether the nostrils move up and down with the effort to breathe. If the child coughs, notice whether the cough distresses or simply disturbs. Remember, that upon your report the physician must greatly rely in determining the nature of the disease.

What may be learned by the expression of the face.

The face, by its varying expressions, gives very valuable indications of disease. When a child is sick at its stomach there is often a pale circle about the mouth, the lips are slightly parted, or else firmly pressed together. A contraction of the nostrils often indicates pain in the abdomen,—when accompanied by a drawing up of the legs is a sign of colic. When the face flushes and pales suddenly, with sensitiveness to light or noise, and restlessness in sleep, the brain is probably affected.

Things to which you must give attention in disorders of the brain.

The room must be kept cool. Inquire of the physician the proper temperature. Darken the room by letting down the blinds, and by shading at night any light that may be in use. The house must be kept quiet, and there should be as little movement as possible in the apartment. Extreme gentleness in speaking to the child is essential. Never allow it to be suddenly roused, and in turning it in bed use some customary term of endearment. If necessary to raise the head, pass the arm under the pillow, and with soothing words administer medicine or nourishment.

How leeches can be applied in these cases.

In applying leeches, trouble may be avoided by putting

them on behind the ear or on the top of the head, where they are out of the way of the child's sight, and are not liable to be rubbed off.

The proper way to apply cold to a child's head.

Cold is best applied by bladders or india-rubber bags half filled with pounded ice and wrapped in a napkin, which can be so arranged and pinned to the pillow that the entire weight can be kept from the child's head.

Important things in diseases of the chest.

The temperature of the room requires particular care. Cold air will not only distress the child, but will increase the disease. Be careful that the thermometer is kept as directed by the physician; lacking this direction, never allow the temperature to fall below 65°. A warm room and light covering are proper in all cases of inflammation of the lungs. The position of the child requires attention: almost a sitting posture is required; even though the little one is not breathing with apparent difficulty, the blood will not so readily settle in the lungs if he is propped up, and he will be able to take a deeper breath. Never neglect this simple precaution.

It is of the greatest importance to keep the child quiet: all exercise of the lungs in crying or talking will increase the inflammation, exert yourself therefore to keep him tranquil. No rules can be given. Soothe the child by every gentle way a woman knows.

The different dangers in fevers.

In each fever you will have to be on the watch against a different danger.

In measles, the risk is of inflammation in the lungs; in scarlet fever, an ulcerated throat; in remittent fever the

danger arises from the strength giving way, or from the brain becoming seriously affected.

General directions for fevers.

Fevers, unlike most diseases, have a certain course to run, however mild, and the dangers which attend them are not altogether absent at any part of their course, and may, by acts of imprudence, be brought on at once. There are days of waiting and watching, when everything must depend upon the nurse. The child can be comforted and cheered. Sponge the skin frequently with lukewarm water, moisten the parched lips, and give a tablespoonful of water to the thirsty child; offer it in a tiny cup, and a small quantity will then be taken with satisfaction. Keep the room well aired, and let the child's clothes be kept sweet and clean; let the bed-linen be frequently changed. Never allow the diet to be interfered with; observe the strictest obedience to the physician's orders, not only in doing punctually all that is prescribed, but in abstaining from doing anything that has not been ordered.

How croup is distinguished.

This alarming disease is distinguished by a loud barking cough; the breathing, though not loud, is as if the air were drawn through a narrow opening. There are two varieties of croup; in the early stage it is difficult to distinguish between them. Membranous croup, though of rare occurrence, is often fatal; spasmodic croup is seldom fatal, but in either case a physician should be called as soon as an attack commences. *Meanwhile* a child should be kept in a warm room and carefully watched, and if the cough returns repeatedly, an emetic can be given,—not an excessive one. Free vomiting only is wanted, not protracted retching. For further directions, see page 78.

How doses of ipecac should be given.

It is better to give small doses, and repeat them, if necessary. For this purpose about half a teaspoonful of syrup of ipecacuanha may be given to a child under a year old, and repeated in twenty minutes if no vomiting occurs. When free vomiting has been produced, one-half the quantity can be given at the same interval, so as to keep the child slightly nauseated. A child between one and two may have a half larger dose, and a child a year older may have double the doses of the child under one year, and for the succeeding years the doses may be proportionately increased. A moist atmosphere tends to relieve the breathing. This can be secured by keeping water *boiling* in the room. A child subject to croup should be guarded from the changes of the weather with unusual care.

Care in diseases of stomach and bowels.

When there is a disposition to nausea, it is well for a time to allow the stomach complete rest. A single teaspoonful of cold water may be given, and if retained, very small quantities of barley-water, chicken-broth, or whatever food has been ordered. *The smallness* of the quantity of the food given, and the giving that *cold*, are the chief points, though it is of scarcely less importance that the child be kept absolutely quiet.

Care of the skin in these diseases.

The skin, in children suffering from diarrhœa, is apt, without most scrupulous care, to become irritated, or even actually sore. Extreme cleanliness is necessary, but in these cases soap and water cannot be used. Thin starch, very much thinner than is used in the laundry, will not

only serve every purpose of cleanliness, but will soothe the irritated skin. If there be already soreness, after drying the child carefully, dust over the parts a little zinc powder. Zinc ointment spread on a soft linen rag may also be applied.

The child not to be lifted.

Avoid moving the child if possible. Sponge and clean it by turning it, with all possible gentleness. The bed-gown can be torn up the back and changed with very little disturbance.

The responsibilities of a nurse when exhaustion follows diarrhœa.

The responsibilities in this case become very great. The child often loses all desire for nourishment; it will sleep for hours undisturbed, seeming fretful only when aroused. If you allow the child to sleep without nourishment, this sleep will end in death. Carry out to the letter every order that has been given you; this will require great perseverance and watchfulness. The nourishment refused one moment may be taken the next,—if there is difficulty in swallowing it, it is but an additional reason for repeating your efforts. There is life to be saved; realize this, and you will exert yourself to the utmost. Never consent to leave your patient for one moment in inexperienced hands.

Some of the things you are never to do to a young child.

Never pat it hard. Never trot it violently, bringing the heel down with force. Never make startling noises by way of amusing it. Never toss or jump it about. Never swing it quickly, either in a cradle or rocking-chair.

Never give it an empty feeding-bottle to suck, or a

rag, or any such thing. Keep it from sucking its own thumbs. Do not put your fingers in its mouth. Do not, in feeding a young child, try to make it eat by first putting the spoon in your own mouth. Do not blow the food to cool it; the breath is often impure, and will make the food injurious to the child.

Never roll the towel up into hard knots, or twist it round a pin, to poke at the baby's ears or nostrils, with the idea of making them clean. Great injury is done in this way. Never try to wash farther than you can see, and always use the softest cloth. In bathing a child, never let the water run into its ears by putting its head too low in the tub. Never on any account tickle a child. In general, keep it as sweet and clean and placid as possible.

To feel the pulse of a baby.

The only time to feel a baby's pulse is when the child is asleep. Keep the finger on the wrist, and if the arm moves, accompany it. No accuracy can be secured at any other time. During nursing the action of the heart is increased; and no time is more unsuitable than just after waking.

The regularity, rather than the rapidity, of a child's pulse will be the point to notice. *Respiration* must be observed at the same time; the least exertion quickens a child's breathing.

To judge whether a child is losing flesh, examine the inner surface of the thighs. With a very short illness, a day or so in diarrhœa, the flesh becomes soft and flabby; with improved health the flesh becomes natural again as rapidly.

To give an enema to a baby.

The nurse must take the baby on her lap, putting it on its left side, with the knees drawn up. The point of the

tube must be oiled, and passed into the rectum about two inches, directed a little to the left. The bulb must be pressed very gently, and the child kept in the position some little time afterwards.

Disorders of the digestion.

With children who are still nursing these troubles are frequently due to the condition of the mother's milk; if she has eaten sour fruit, or acid or indigestible food, the baby suffers. Care on the mother's part will cure the child. But should the child have flatulence and griping, if it nurses voraciously and yet is not satisfied, and becomes pale and flabby, the probabilities are that the mother's milk is not nourishing. A healthy wet-nurse should be secured, or the baby brought up by hand.

In the case of babies bottle-fed, troubles of the digestion are generally due to want of care on the part of the nurse. The saucepans, feeding-bottles, spoons, etc., are not clean, and particles of decomposed milk line the tube through which the baby sucks, and contaminate its food; the food is warmed over instead of being freshly prepared for each meal; the baby's mouth has not been kept washed after each time of eating; some or all of these things are likely to occur unless the mother herself has a careful oversight of the nurse and child; and attention to these matters will remove the trouble probably.

When *diarrhœa* accompanies other symptoms, no attempt at domestic management with "soothing syrups" must be made; the little life is too easily put out to admit of trifling.

Until a doctor can be consulted change the baby's food for a day or so, give arrowroot not too hot; boil the milk used and give it cool. Sponge the baby care-

fully in warm water at night; put a *wide* flannel bandage round the bowels. A teaspoon dose of castor oil may be given with safety, but nothing more without the doctor's advice. Lime-water added to the milk—a tablespoon to a pint—will be found useful.

When diarrhœa accompanies teething, the mother must not attempt to stop it suddenly. Probably all that is needed is to bathe the child regularly, and to have its gums when hard and red lanced.

Should the diarrhœa be long-continued and too free, so that the child seems weakened, send for the doctor. Free movement daily is necessary and a relief to the head, but excess is harmful.

Costiveness.—A very useful and simple treatment is to rub the baby's stomach and bowels night and morning gently with warm olive oil for ten minutes. A small suppository of Castile soap may be passed up and down in the rectum, and a very small tallow candle may be used in the same way. No medicine must be given without a doctor's permission beyond a teaspoon of castor oil.

Worms.

Round worms and pin-worms are the varieties commonly seen in discharges from children's bowels. The only way of detecting the trouble certainly is by actual sight. Never try any of the advertised "worm-lozenges."

Give the child a dose of castor oil, and follow it the day after with injections of warm water and salt, keeping this up for four or five days, until no more worms are found in the discharges. Children with this trouble are generally delicate, and need nourishing food and some simple tonic.

Protrusion of the bowel.

Ignorant and careless nurses often bring this trouble upon children by the attempt to establish what they call "regular habits." A daily evacuation of the bowels is necessary, and the habit which such a disposition induces must be kept up; but great injury is done to young children and babies by inducing them to strain, and to sit over a commode until something has been accomplished. More than five minutes of this should not be allowed. Care as to food, exercise, cleanliness, and rubbing, with the use of the simple expedient of a little Castile suppository, is all that is necessary, unless the habit is so confirmed as to require a physician's advice.

When through over-zeal protrusion of the bowel has been produced, lay the child on its back, raise the buttocks with a pillow, wash the parts very gently by squeezing tepid water over them, and then with the ends of the fingers gently and firmly press the bowel into place. If not successful, keep the child still and send for a physician, who should always be informed of this condition of things.

A common trouble.

Children who are no longer babies are often subject to great annoyance from the passing of water in their sleep. The trouble may be due to worms, to scrofulous tendencies, and to other things which require the care of a physician. Consult him, and some simple remedy *persisted in* will generally break up the tendency. Nothing is more cruel than to punish and frighten a child because of the difficulty.

Diseases of the air-passages in children.

A short abrupt hacking *cough* is suspicious, and a bad sign is when children cough more on being laid on either side than on the back.

Expectoration is generally absent in children under five or six; they are too young to go through the motions, they swallow the sputa; it can be obtained for inspection by wiping the root of the tongue after a paroxysm.

The expression and color of the face do not change in light cases, but if serious illness follows, the face is flushed and the head hot.

The breathing in serious cases is difficult; "râles" are heard, and the nostrils rise and fall with each breath. The effort is greater with expirations than with inspirations. The mouth is open and the angles of it drawn down; the eyes are glassy or restless.

The cry of children with serious trouble of the air-passages is low and short like a moan, and the expression of the face shows pain. All these symptoms probably indicate pneumonia, which for a young child is a very dangerous thing. A bronchial catarrh has probably preceded them, and gone unnoticed.

When children are first attacked in this way they are to be kept in an even temperature, confined to one room, unless the air, even in summer, is perfectly warm and dry. Their clothing should protect the chest and arms, and no wet bib must be allowed to dry on the child. The food must be gruels, broth, and milk; it is safe to give as much cool water as the child wishes. If a wet bandage is ordered applied to the chest, a wide, large napkin must be folded like a cravat to cover the chest, must be dipped in tepid water, and fastened round the child; a piece of oil-silk is put over it, and over the whole, to keep

it in place, a second napkin folded in the same way, a little wider. The under napkin must be kept wet by raising the edges of the oil-silk and adding tepid water in a teaspoon along the edges,—the care being not to cool the skin by evaporation. Keep the air pure and *free from dust.* All orders from the physician are to be strictly followed, and his advice asked as to bathing the child or not.

Cholera infantum.

"Summer complaint" is the name commonly given to the disease which involves the mucous membrane of the bowels, and is one of the most fatal disorders among children under five years of age.

Excessive heat, combined with atmospheric impurities; teething; and improper food, are the exciting causes.

Symptoms.—The disease generally begins with more or less diarrhœa, but may come on suddenly with vomiting and purging, or the child's digestion may have been disturbed for a while. The pulse is frequent and tense; there is feverishness; often severe pain in the intestines, which is increased by pressure, and sometimes the muscles of the abdomen and of the extremities contract spasmodically. There is excessive thirst and little appetite. The discharges from the bowels are at first fluid and frothy, sometimes tinging the napkin green. Frequently the food passes rapidly through the intestines without undergoing any change. The child is restless, with increased feverishness, sleeps with eyelids half closed, and loses flesh rapidly. In the earliest symptoms a physician must be called.

Nursing.—The child should have a warm bath daily, given without exposure, and continuing three to five minutes. The diet must be restricted to the mother's milk if the child is still nursing; if not, give *boiled* milk

and water with sago or arrowroot. A little thoroughly-boiled rice moistened with an ounce of beef-juice extracted in a bottle may be given with very good results in some cases. Lime-water should be added to the milk taken. The food should not be given hot; allow it to cool a little. Cold water and lumps of ice may be safely used; a baby may be allowed to suck small lumps of ice tied in a piece of gauze. The mattress should be of hair, and the bedding light; the room kept cool; a wide flannel bandage worn all the time, and the child taken as much as possible into the open air. An entire change of air is of the greatest service when it can be secured.

Should there be irritation from teething, the child may be relieved by the lancing of the gums.

Infantile convulsions.

Convulsions may occur from a day or so after birth on to the time when the first set of teeth are cut, or later.

Injuries to the head, indigestion, worms, the cutting of teeth, sudden fright, etc., are the causes. Babies under one year generally show the following premonitory symptoms: they sleep with the eyes half open, the limbs and muscles of the face twitch, the hands are clenched; the child then suddenly becomes generally convulsed, the muscles of the back especially being affected. There are many other symptoms, but they are not all necessarily present. The fit may come on suddenly with a child of any age, sleeping or waking. It generally lasts but a few moments, and yields to treatment. Send for the physician, but do not wait for his coming before doing the following things:

The child's clothes should be unloosened, and a search made for pins, *that* may be the sole cause of disturbance; meanwhile, a warm bath may be prepared. Care should

be taken that the child does not hurt its head. If the hands are curled up, nothing is to be gained by opening the palm,—disturb the child as little as possible, and not infrequently he will have dropped off quietly to sleep before the bath is ready. Let the temperature of the bath be tested by putting in your elbow, and let the water be as warm as you can comfortably bear. If tested by a thermometer, it should mark 100° Fahrenheit. Warm water can be added, if necessary, while the child is in the bath. Let the body be placed in the bath with the head and shoulders out, and apply to the head cloths wrung out in cold water in constant succession. Five minutes is as long as the child should remain thus immersed; it will be better to repeat the bath than to continue it for a longer time. Wrap the child in a warm blanket, and do not disturb him unnecessarily. If the convulsion does not yield, an enema of soapsuds may be given. If small worms have been seen in the discharges, the enema may precede the bath.

Should there be a succession of convulsions the case is more serious, and further directions will be given by the doctor.*

The mother's own care necessary.

In all the preceding directions for nursing young children, it is assumed that the mother herself, or whatever person stands in that relation, will observe symptoms and administer medicines. No ordinary child's nurse should be allowed any discretion as to the food, air, or clothing of a sick child; or should be trusted to measure doses and decide whether or not they shall be given.

---

* The Committee is indebted to Dr. West's valuable little hand-book on "Sick Children," for material for this chapter.

CHAPTER VI.

SURGICAL NURSING.

First requisite.

THE first requisite in surgical nursing is absolute cleanliness. Every utensil used, everything about the patient or the bed, towels, rags, lint, bandages, scissors, dressing-forceps, and the places in which all these things are kept, the person and dress of the nurse, each and all must be faultlessly clean. The care of all these matters belongs exclusively to the nurse. If, for instance in a hospital, she comes to a bedside with her hands full of all sorts of things, towels, ragged bunches of lint, sticking-plaster, scissors, salves, all in a confused mess, and distributes them on several chairs, the next vacant bed, and the bedside table, with which all sorts of persons may have come in contact, she very likely has wiped up some impurity, which will be conveyed to the wound she is about to dress. Order, which includes cleanliness, is the surgical nurse's first law. She must have all that she requires to work with ready on a tray, or in a box together, and water, clean towels, carbolic acid, soap, etc., and a zinc refuse-can with cover, or a covered stoneware jar, all at hand. It will never do to stop, after having begun to handle the soiled dressings, to go after this or that, or to touch any clean article to be used about the wound. This rule for hospitals applies with equal force to the private house when there is a surgical case to be nursed.

Removing soiled dressings.

Unroll a bandage, gathering it up in the hand as you unwind it. Never take hold of one end of a strip of plaster to pull it from a wound; take it by both ends and draw them towards each other; in this way the edges of a wound are also drawn together. Never try to pull away any plaster, salve, or other dressing which adheres to the skin. Squeeze water gently between the skin and the edges of the cloth on which the dressing is applied, and fold the cloth over on itself as the water loosens it.

In removing strips of plaster from a wound, it is necessary sometimes to remove one and wash the part and apply a fresh one before taking off another. The danger that the two sides of the wound may separate is in this way prevented.

The nurse must never touch the ligatures; when they have separated they will be washed out by the water used, and are never to be pulled.

Be especially careful that they do not adhere to the strips of plaster, and so are pulled upon when dressings are removed.

Oil.

When oil is required for any purpose about a wound, or for the surgeons to dip their fingers in, vaseline is the best in almost all cases. Always put a little in a saucer to be used for the time, and never allow fingers to be dipped into the common bottle; disease could easily be conveyed in this way. Throw away all the oil or vaseline which is left in the saucer. A little oil will help in removing the strips of plaster and the marks left by them; rub it round or towards the wound in such a way as not to disturb or part its edges.

Washing the wound.

Spread a rubber-cloth over the bed. Never touch a wounded surface with anything; squeeze water over it from a rag, or throw it from a syringe, repeating the process until every part of the wound is clean. Carbolic acid, one part to one hundred parts of water, is frequently used as a disinfectant for washing wounds. For a fresh cut or wound cold water is best, as it helps to check hemorrhage; but in an old or foul wound, warm water may be needed to soften and remove the discharges. The acid can be added to it. Two basins are necessary, one to hold the clean water, the other to catch the soiled drippings. A rubber-cloth can be arranged as a trough leading to a basin. Crescent-shaped basins come as part of a hospital outfit; these can be pressed close against the curves of a limb or the body under the wound to catch the water and discharges.

Never use paper basins for any of these purposes. A small china one is much better, though tin kept very clean will answer.

Soiled dressings are to be carried away from the bed at once. Should the nurse be on duty in a hospital, she is on no account to take them from bed to bed in the refuse-tray; as she goes from case to case she must take them to the general receptacle provided, and rinse the tray or basin in which she carries them with carbolized water. She must always wash her hands with carbolic soap before going from one patient to another, and until this is done she must not handle the clean lint, towels, plaster, etc. She must also dip the points of her dressing-scissors in carbolic water and dry them after each case.

Discharge from wounds.

Suppuration is not generally seen until active inflammation has continued for two or three days. Healthy pus is a yellowish-white, opaque, creamy fluid, without odor, and insoluble in water. When this is not its character the nurse may know that the wound is not in a healthy condition, and should report it.

Sponges.—Sponges are never to be used about a surgical case; they are necessary in certain operations, but rarely at any other time. Use instead a syringe, throwing clean water over the surface of the wound, or a soft piece of lint if it is absolutely necessary to touch the surface, as in freeing a flesh wound from blood; touch gently, always moving towards the wound.

Applying dressings.

Whether the application be cold or hot, its value consists in *keeping* it in the condition in which it was applied. If your cold dressing, intended to keep down inflammation, becomes warm, you have turned it into a poultice and defeated your designs.

If your warm dressing, intended to allay pain and promote suppuration, becomes hard and cold, you have turned it into a painful application, which retards the process you wish to establish.

Keep your cold application cold, keep your warm one warm. For different applications, see pages 45 to 56.

If dressings are to be kept in place with strips of plaster, or the edges of wounds drawn together with them, see that the strips are cut of the right length and width before you begin any of your work. Let the edges of the strips be parallel; if one side is straight and the other crooked the strips will not pull evenly, one side will be

looser than the other. If the strips are of different lengths, the dressing is less secure and less tidy. Cut the plaster lengthwise, along what would be the selvage (which should always be removed), not across, or it will stretch.

Oakum and charpie should be stretched and loosened a little before applying them to absorb discharges.

Lister's method of dressing wounds

consists in a free use of carbolic acid and in an air-tight carbolized dressing; the object aimed at is to prevent any air, instrument, ligature, hand, or any substance of any kind from coming in contact with a wound, unless these have been saturated with a solution of carbolic acid. It requires patience and skill; but as, with this process, a wound needs to be dressed only once in from three to six days, it is really less troublesome than the usual plan where the dressing needs to be applied twice daily. It is the best-known method of protecting wounds from the contagion of erysipelas and pyæmia. At present Lister's dressing is used chiefly in hospitals, and is made by the surgeon; but as it is coming rapidly into general use, it will be an important part of a nurse's work in caring for surgical cases, and she should understand it.

1. All, instruments, articles, and hands to be used in or about the wound are washed in a solution of carbolic acid,—one part of acid to not less than twenty or more than fifty parts of water. 2. The air is impregnated with carbolic acid, thrown in a constant spray from an atomizer across and on the wound while this is being operated on or dressed; the wound is carefully washed out with the solution, and drainage tubes, etc., are placed. 3. While the spray continues the dressings are applied; these are usually from eight to sixteen layers of carbolized gauze or muslin covered with oil-silk, or thin rubber-

cloth, to keep them air-tight, to retain moisture, and prevent the secretions from soaking directly through the dressings. 4. The dressings are bound on evenly and firmly, and must never be removed or worked with, except while carbolic spray is playing upon them.

Whatever the dressing is, it will be ordered, and for the first time applied probably by the surgeon; but the person acting as nurse can very greatly assist him by having everything ready, and not obliging him to stop and ask for this and that. Before adhesive plaster is applied, and sometimes when poultices are ordered, the part over which the application is made should *be shaved* if hair grows upon it. Much needless pain is prevented by this precaution on the nurse's part.

BANDAGES.

Roller bandages are strips of different widths, varying from one to four inches or more, of loosely-woven cotton or flannel, rolled tightly before using and slowly unrolled as they are wrapped about the limb. The bandages should be without selvage, and should have been shrunken before being rolled. If unwashed material is used, the dampness from moist applications may shrink the bandage unevenly and make it uncomfortably tight. An old cotton sheet is a good material to use.

A bandage should never be tighter in one place than another; if it is, the whole thing is likely to come off, and the unequal pressure is an injury. Do not let the edges of a bandage cross any sore spot; the tender place should be covered by the full width of the bandage; and in applying it, always begin at the point farthest from the heart,—that is, to bandage the leg begin at the toes, or the arm, begin at the fingers. To piece a bandage, lay the two ends flat on each other, lapping them an inch or more, and basting them together on the four sides.

Slings.

A sling is only a large square piece of cotton, or a large handkerchief, tied round the neck by the corners to support the arm. It should be brought above the elbow point, and extend to the wrist; or, if the hand is to be supported, to the tips of the fingers.

T bandage.

Besides the ordinary roller bandages, one made in the shape of the letter T is often needed, and can be applied to various parts of the body where a straight strip is unsuitable.

Many-tailed bandage.

This is a long strip crossed by short ones, fastened at right angles. It is useful as applied to a limb, because without moving the limb in the least it can be undone and the injury examined.

Plaster of Paris bandage.

Prepare for the surgeon strips of very thin, soft muslin of the required width. The cloth sold under the name of "cheese-wraps" is best, being an unbleached muslin with very wide meshes, and entirely without sizing; sizing interferes with the setting of the plaster. Lay the near end of the strips in a flat tray in which there is a pint or more of plaster of Paris of the best quality and perfectly fresh; roll the bandage up in the plaster, rubbing the plaster in with a spoon as you draw the strip through it towards you; or have a second person put on the plaster with a dredging-box as you roll the bandage, the point being to fill the whole length and width of the bandage with the plaster. When the surgeon is ready to apply it, dip the rolls for a moment in water until they have taken

up all that they will; then squeeze them slightly, and they are ready. Hot water will set the plaster more rapidly than cold, and hot salt-water more rapidly than either.

A second way.

Mix plaster of Paris with water to the thickness of an ordinary poultice, and have ready folds of sheet-lint or old napkins, which will be dipped in the mixture and applied by the surgeon with a roller bandage.

Starch bandage.

When this is to be applied, have ready for the surgeon rolls of *sheet*-wadding, a basinful of thin boiled starch, and roller bandages of the proper width.* If necessary to dry the bandage quickly, have sand-bags heated in the oven, and lay them near the bandaged limb.

A piece of blanket or a heavy long soft stocking can be used for a leg bandage, and must be split through its whole length on the upper side, soaked in starch, and applied with a roller bandage, as pasteboard.

Undressing patients.

All clothing must be put on and off with as little effort as possible to the patient. Never drag off the trousers if a leg is wounded. Slit up the outer seam, and they are taken off very easily; if the arm is injured, slit up the sleeve through the shoulder and band. The clothing can be fastened afterwards with strings. In many cases it is necessary to cut the clothing off as quickly and easily as possible, but it must never be unnecessarily destroyed.

---

* The surgeon will supply such pasteboard as he may require to be dipped in the starch.

Preparing for operations.

The things which a nurse is responsible for having ready are: clean towels, soft rags, lint, basins, pails, hot and cold water, ice, flannel or cotton bandages, pins, needles, silk, scissors, vaseline, soap, oil-silk, sponges, shallow box of bran, sticking-plaster, carbolized water, a rubber blanket, a pillow, and a sheet to throw over the patient. If the operation is performed in a private house, a firm, long table or board on which the patient can be placed must be procured. The clothes of the patient must be freshly changed and nothing tight worn. A pint of beef-tea, or its equivalent in beef-juice, should be given four hours before the operation, and the bowels should be relieved by an enema, especially if the operation is about the rectum or bladder.

During the operation the nurse will probably only be called on to wring out sponges in clean water; this she must do thoroughly and quickly, changing the water frequently.

Anæsthetics.

Ether and chloroform are the principal anæsthetics, ether being the one most commonly administered, as well as the least dangerous for the patient. The stopples or corks of the bottles containing them must be kept well in place.

If by any chance the nurse is called upon to assist in giving anæsthetics, the following is the method:

Ether is given on a napkin, which is put inside a horn or funnel, rolled up out of card or stiff paper, and made large enough to fit close over the mouth and nose; half an ounce is enough to pour on at one time, and it is to be sprinkled quickly over the napkin, and not poured on one spot only. When it has to be renewed during the etherizing of the

patient, sprinkle it as quickly as possible, losing no time in covering the mouth and nose again.

Chloroform is given by pouring a few drops on a napkin and holding it towards the nostrils, but not close to them. Air must have access to the lungs.

After chloroform has been used, the patient is not to be lifted up until its effects have passed off. It has a powerful sedative influence over the heart, and fatal reaction might occur were the patient put in an upright position too soon. No pressure must be made over the diaphragm either by the patient's arms or the bedclothes, for the reason that the breathing must not be impeded until the effect of the chloroform passes off.

Before administering either of the anæsthetics all tight bands must be loosened at the waist, throat, and wrist; and if there are artificial teeth, they must be taken out.

After the operation.

There must be ready for immediate use hot bottles wrapped in towels, brandy, cracked ice, and a freshly-made bed, prepared with a rubber sheet over the mattress. Over the under sheet should be a draw sheet to lessen the danger of perspiration, which the rubber sheet induces.

Sickness at the stomach.

The anæsthetic generally produces nausea, and the effort of vomiting is extremely dangerous when there has been any operation involving the stomach and bowels. The nurse must press her hand upon the abdomen in such a way as to support it while vomiting continues.

In hernia especially, this pressure of the nurse's hand lessens the danger of a second rupture. After the operation of ovariotomy, the same care must be taken. Small pieces of cracked ice may be given, and, with the doctor's

permission, a teaspoon of brandy in half a wineglass of ice-water now and then.

Bleeding.

After an operation, and especially after an amputation, the nurse must for the first twenty-four hours keep a very careful watch for bleeding, which may come on during vomiting or at any time. A strip of soft lint placed close to the wound and left hanging outside the bedding might help in detecting it promptly, and if there is pain in the part, the nurse should anticipate trouble of the kind; she must examine very frequently. After twenty-four to forty-eight hours the danger is less. Bleeding may be brought on by anything which quickens the circulation, and the nurse must be very careful that nothing disturbs the mind or body of her patient. Keep him perfectly at rest, and in bed, no matter where the wound is, until the doctor permits him to sit up. The bedpan and urinal will be required, and should there be constipation, no straining must be allowed; report the matter to the physician, who will probably order an enema.

Shock.

After surgical operations and severe injuries, extensive burns, loss of blood, sudden blows, etc., the patient not infrequently falls into a condition in which he is said to be suffering from "shock"; he lies in a state of prostration; the skin is clammy, the eyes dull, the nostrils are dilated, the mind bewildered, and there may be vomiting. The nurse's effort must be to excite the action of the heart and produce warmth. Raise the head not more than an inch or so; give brandy in teaspoon doses in a little water, until eight or ten have been taken; wrap hot bottles in cloths and put them between the thighs and

under the arms, and keep the feet warm. The object is to revive the patient, and the efforts must stop short of heating and exciting him. Strong beef-tea should follow the brandy closely. Shock which is produced by cold bathing and drinking ice-water, in time of great heat, when the body is exhausted, must be treated in the same way.

Moving surgical cases, and positions.

When it is necessary to move surgical cases, do it with the greatest gentleness, and *do it slowly*. If they are to be put up on the pillow, *never drag* them, particularly in a hip-joint case. Lift very slowly, calling an assistant if necessary, and put the patient down without the slightest jar. Do not allow a feeble person to make any exertion in moving. In amputation cases and others which need support, make a pad rolled up out of an old sheet, on which the part can rest while dressings are going on. Pads which cannot be washed or destroyed are not to be used about surgical cases. A cool and sufficiently soft pad can be made by filling a bag with bran, to be used during the case and burned afterwards. An inflamed part must always be put on a level with or above the rest of the body.

Ventilation.

In all surgical cases an abundant supply of fresh air from outside the house is indispensable. Soldiers treated in the open field will recover, when the same wounds cared for in tightly-built and poorly-ventilated houses frequently prove fatal. The common blunder, that by letting in fresh air one may "take cold in a wound," is very ignorant,—you *must* let it in wherever there is suppurative inflammation, day and night. Never let the patient be chilled; cover him up warmly, but keep the air pure. Pyæmia in hospitals, but not exclusively in them,

is often the result of want of ventilation, and this is a thing for which the nurse is largely responsible.

Feeding surgical cases.

A suppurating wound is a drain on the system, and nourishing food is of great importance.

One of the commonest errors is the notion that the diet must be kept low through fear that inflammation may be increased. Abandon this; feed your patient better than you would were he in health, give juicy, well-cooked meat, fresh vegetables, eggs, milk, farinaceous articles, etc., and entirely avoid all pies, hot cakes, jellies, and other sweets, which take away the appetite and furnish little nourishment. Ale or stimulants will be ordered if necessary by the physician.

Bed-sores.

When any part of the body is compressed for a long time it loses its vitality; this would be the case even in health, but when a person is debilitated by disease, is paralyzed or wounded, and obliged to remain in one position, the skin covering the points of the body that are pressed upon becomes congested and inflamed, and sometimes excoriated, without any pain being felt so far by the patient, the lowered vitality of the part having to a certain extent deprived it of feeling. The nurse must never therefore wait for complaints of uneasy feeling or soreness, she must daily examine for herself all the parts upon which pressure comes: the hips, the seat, shoulders, elbows, and heels, etc. It is not so much the severity of the pressure which is bad, but its moderate long continuance on a part congested by position, in a feeble subject.

When a patient is likely to be confined to bed for many weeks, and especially in surgical cases where the union of

fracture, etc., requires sometimes perfect rest in one position, every care must be taken from the outset to prevent pressure. A water-bed cannot be used in many surgical cases, a firm, unyielding surface being required, but such relief as may be secured by pads and cushions of different shapes, by air-pillows, and surgical appliances for slinging a patient, should be secured before it is actually needed; the person and bed must be kept perfectly clean and dry, the skin on the exposed parts bathed three or four times daily with spirits of wine, pure, or with two grains of bichloride of mercury dissolved in each ounce, and the patient's general health must be kept up with nourishing food, sunlight, and fresh air. If the skin has already become chafed, it may be washed over with collodion; if a sore has formed, the manner of dressing will be prescribed by the physician; whatever this may be, however, it will be of no use unless all pressure is removed and the patient's general health built up.

LITHOTRITY, LITHOTOMY, OVARIOTOMY.

The nurse's duties concerning various injuries and operations are most of them indicated in the general directions given so far. There are a few surgical cases, however, requiring special instructions, and these are added; though it must be understood that for these cases also all the general instructions laid down for surgical nursing must be observed.

Lithotrity.

The patient should be kept quiet for a day or two previous to the operation, and the bowels should be freely opened. After the operation the effort is to allay irritation. The patient must remain in bed and have plenty of mild drinks, such as milk, barley-water, soda-water, etc.

He must not be allowed to get up for any purpose; the bedpan and urinal must be used. Unless perfect quiet is insisted upon, small fragments of the stone which have not yet escaped may be driven into parts where they will cause excessive pain, and be sources of extreme danger. No moving about is to be permitted until the surgeon is satisfied that all fragments have been removed. The urine must be filtered through fine muslin, and any particles of the stone kept for the surgeon's observation.

Lithotomy.

In preparation for the operation, the patient must be given the day before a dose of castor oil, and the next morning an enema.

He should have been as quiet as possible for ten days preceding the operation, and have had nourishing and unstimulating food.

The bed should be prepared covered with the under sheet, and over this, across the middle of the bed, a large-sized rubber blanket, covered by a draw sheet folded four or five times, so as to make a thick cloth for absorbing the urine which escapes. A large number of soft old sheets or quilts, which can be constantly washed, will be required. After the operation the patient must be kept in bed, and his bowels covered with a warm flannel. When opiates are ordered, give them in rice- or barley-water.

For the first few days rice and milk gruels and puddings are all that will generally be required. The surgeon will order more nourishing food and stimulants if needed. In about forty-eight hours the patient is allowed to change his position from the back to either side.

In some cases a tube is left in the wound for the first few days, and the surgeon must be asked for directions

for keeping it free from obstructions. In from fourteen to eighteen days the wound will probably heal, and during this entire time the nurse must take the greatest care to keep the patient quiet, and as clean and dry as possible. The hips and buttocks must be washed daily and oiled, to prevent irritation from the constant escape of urine through the wound. Any appearance of blood with the urine must be at once reported to the surgeon, and also any disposition to chilliness, profuse perspiration, or tender ness about the lower part of the abdomen; in short, any symptom however slight must be noticed.

Ovariotomy.

The operation is for the removal of ovarian tumor, and for it the nurse must prepare the room. There should in all cases where it is possible be an open fire; the window must be lowered at the top, and care taken that no air blows directly upon the bed. The temperature must be kept at 70° constantly, day and night. On no account must the nurse allow the room to become cold, and then try to warm it by shutting the window. Every part of the room must be made perfectly clean before the operation; it would be best to take up the carpet, and leave a cleanly-scrubbed floor; all unnecessary articles of furniture, dusty curtains, and useless ornaments must be removed, and the whole room, with its walls, paint, and windows, washed. If there is paper on the walls, have all parts of it rubbed free from dust with soft cloths. The bed must be wiped with damp cloths to remove all dust, and the mattresses and blankets freely exposed to the sun.

Make the bed after this for long occupancy, with rubber sheet and draw sheet. The patient's clothing must be warm and loose, a night-dress, and over it a

flannel gown, both open down the front and tied with strings.

The personal temperature night and morning should be taken for three or four days beforehand.

The day before the operation a dose of castor oil should be given, and the next morning an enema of warm water and soap, so that the bowels may be completely emptied. Give a warm bath the night before, and four or five hours before the operation a pint of strong beef-tea and a dose of brandy, the quantity to be directed by the surgeon.

For the operation the nurse must have ready hot and cold water, half a dozen towels, two or three perfectly clean empty pails, ice, soft white cotton-wadding in rolls, a dozen or more perfectly new sponges about as large as the fist, and made entirely free from sand by repeated washing and beating, and softened and squeezed out in clean tepid water when handed to the surgeon.

A flannel bandage will also be required, two feet wide, long enough to surround the body, and with no strings; safety-pins are better. There should be at hand brandy and two or three pint bottles of champagne, a vial of laudanum, an enema-tube, and a feeding-cup and some glass tubes, so that the patient need not be raised to drink, and an india-rubber bag of hot water. The fire should be brightly burning; the window-shutters open; the air pure; and the patient's mind kept as quiet and cheerful as possible. Do not let her see the preparations made.

A strong, firm table on which the patient can lie for the operation may be asked for by the surgeon.

After the operation the patient must be put in a perfectly fresh warm bed; no chill must be about the sheets. Use a cradle to support the weight of the clothes. Two single iron beds with firm hair mattresses are best; the

patient can after a while be lifted from one to the other; they should be narrow enough to allow the patient to be reached from either side. Have on hand some small blankets to wrap about the feet and legs.

No sort of motion is to be allowed; absolute rest is of the greatest importance. The catheter is to be used every six hours, and oftener if the patient requires it. In using it be careful that the clothing does not become wet at the time, so obliging unnecessary moving and changing. The bed, bedding, and clothing must be kept scrupulously clean without disturbing the patient. In using the catheter there is not to be the slightest moving or exposure of the patient. The nurse must raise the bedclothing at the side, and introduce the instrument as she sits by the bedside. The urine must be kept in another room, covered, for the doctor's inspection. The catheter must be thoroughly cleansed after each using by letting hot water run through it from a faucet or pitcher.

The bowels need not be moved for ten days or more. Should there be irritation or discomfort from hard masses in the rectum, they should be removed by the finger, and the bowels cleaned by an enema of warm water. Before throwing anything into the rectum, and at any time when there is flatulence, the nurse should introduce the injection-pipe two or three inches to let the wind escape, and also the previously-injected and unabsorbed food. If the first motion of the bowels fatigues the patient or makes her restless, report it to the doctor; he may wish an opiate given as an enema. Allow not the slightest straining at such a time. The patient's temperature must be taken night and morning.

Watch all the changes in the symptoms, and report the slightest of them. Notice any difference in the color of the face; any increased restlessness; or loss of appetite;

whether the urine becomes scanty or thick, or deposits urates on cooling. Inform the doctor of all such things.

Should there be vomiting, coughing, or sneezing, the nurse should give the abdomen gentle, but firm support, and afterwards the wound should be examined; if the edges are in the least separated, the doctor should be sent for at once. Try to check vomiting by champagne. or a little brandy and cracked ice.

Sickness of the stomach is often due to weakness only, and two ounces of beef-tea—the strongest preparation—should be given very slowly when this seems to be the cause. Begin with a teaspoon dose, and after waiting give a little more until all has been taken; give it cold.

Very little food is required during the first three days, and this should be arrowroot, milk, or barley-water; if more strengthening articles are required, they will be essence of beef or strong chicken-tea. Stimulants will be ordered by the doctor, and are generally brandy and seltzer-water, and champagne. The nurse is only to give them on her own responsibility when there is faintness, chilliness, or an appearance of exhaustion.

No one is to be admitted to the room without the doctor's permission, and all mental exertion or excitement is to be avoided.

These general directions are applicable to all operations about the abdomen.

ERYSIPELAS AND PYÆMIA.

Among many troubles that may overtake surgical cases these two diseases are the most common, and by understanding the conditions which predispose to them a nurse may do much, even under unfavorable circumstances, to lessen the chance of their occurrence.

One thing she must invariably do with all cases,—that

is, make every effort to keep up the patient's courage; a hopeless, depressed state of mind, and no determination to get well, is not unlikely to induce a fatal termination with a comparatively trifling injury.

Erysipelas.

Of all diseases affecting surgical cases, this is by far the most contagious, and is always extremely dangerous with large wounds, especially where a bone is broken or laid bare. Even with very simple wounds, when the patient is weak or debilitated, it is apt to prove fatal. A case of it will poison the atmosphere of a ward, or of a building, and this fact should never be forgotten by a nurse. At the first onset of the disease the patient should be isolated. The poison is also readily conveyed by the hands, a sponge, an instrument, and even by the hair or dirty finger-nails of a nurse or doctor. On this account, those who are attending a case of erysipelas should under no circumstances approach or touch other surgical cases, lying-in women, or any patients liable to be affected. When the erysipelas has disappeared, the nurse should not return to other patients without a change of clothing and a thorough washing in carbolized water. Patients whose vitality is lowered by suppurating wounds are specially susceptible to contagion from this disease, and at no stage with surgical cases must there be the slightest exposure to its malign influence.

Local symptoms.—These are a sense of heat, and tension and pain in the skin, headache, nausea, quick pulse, coated tongue. In a wound the secretions dry up, and the margins become slightly swollen and red. In from twenty-four to forty-eight hours a rash appears, is of a uniform rosy-red hue, and disappears on pressure. The bodily temperature runs up sometimes to 105° or higher. In old or feeble

persons, or children, the disease is more dangerous than with others; in all surgical cases its appearance gives reason for anxiety.

The nursing will consist in efforts to allay the fever, and to keep up the strength. Nourishing and easily-digested food must be given, and cooling drinks, such as lemonade, tamarind-water, etc.

If warm fomentations are ordered, such as poppy or chamomile, apply them on flannel or spongio-piline. See that the fomentation is of the same temperature every time that it is applied. If other applications are ordered, they are generally made with a camel's-hair pencil, and care must be taken that nothing enters the eyes.

Erysipelas is most dangerous when in the head or lower limbs. In favorable cases it begins to abate in about ten days, but may wander about attacking one part of the body after another, necessitating great care on the part of the nurse in keeping up the strength. Brandy beaten up with egg and sugar, and thinned with a little milk, makes a nourishing stimulant for these cases.

The room.—Keep the temperature at 65°–70° all the time; ventilate by one open window in an adjoining room, or in the patient's room, protecting him from draughts. No one not required should come into the room, and in hospitals the patient and his nurse must be isolated from every one,—the sick and those who are in contact with them. The nurse should be careful of her hands, covering up any scratch or cut, washing them frequently, and not touching her face or eyes with her fingers; the disease is readily conveyed when the skin is broken, and is highly contagious among surgical cases.

In a private family where there are no arrangements for disinfecting articles by heat, etc., all unwashable material should be excluded from the room, such as stuff curtains

and table-cloths, and heavy quilts, and unnecessary worsted furniture.

Bandages and poultice-cloths should be thrown into a crockery jar with two ounces of carbolic acid to a gallon of water, and soaked; the pulp of the poultice can then be thrown into the water-closet and the rags burned. For disinfecting and cleaning the room, see page 155.

Pyæmia

is a septic disease characterized by internal abscesses and blood-poisoning, which is almost certain to result in death. It occurs in connection with wounds, injuries to bones, etc. Like erysipelas, it is very contagious, and should be isolated in the same careful manner. It is most frequently seen in the bad air of dirty or crowded hospitals, but may occur in a very low vitality without such a condition of the air.

Symptoms.—The characteristic symptom is a chill coming on suddenly, and accompanied and sometimes preceded by a great rise of temperature, which is sometimes 107°. After the chill comes a profuse and exhausting perspiration, and the temperature falls, the skin, however, remaining hot and the breath feverish.

The secretions are arrested; the pulse is quick and soft, and the face anxious. In the acute form there may be but one attack, or it may be repeated at intervals of from twenty-four to forty-eight hours. The disease is generally fatal in from four to twelve days.

Preventive care.—Perfect cleanliness; the use of Lister's antiseptic dressing; free ventilation; nourishing food; and cheerful surroundings, are the best preventives, and are all within the nurse's control. She must notice and report the least increase of temperature, and any unhealthy appearance or suppression of discharge

from the wound; loss of appetite, chilliness, or any other unusual symptom.

Curative treatment is very unsatisfactory in its results generally. To give the tonics and stimulants faithfully and all the nourishing food that can be secured; to keep everything perfectly clean and the air pure; to follow strictly ***all*** orders,—these are the nurse's duties.

CHAPTER VII.

DISINFECTING, AND CARE IN COMMUNICABLE DISEASES.

SMALLPOX, scarlet fever, measles, chicken-pox, typhoid fever, erysipelas, typhus fever, puerperal fever, diphtheria, pyæmia, dysentery, and other diseases of like kind are classed as communicable, and should be treated as such; the following precautions being observed during their course, and at their termination, with modifications under certain circumstances in the case of measles and chicken-pox.

When the disease is declared.

The patient should be isolated as entirely as possible. The highest room in the house (which can be properly ventilated) should be used. Not more than two persons should be in attendance, and they should avoid contact with other members of the family. The bedding, clothing, towels, etc., for the patient and the nurse should be washed by themselves and not sent to the laundry.

The nurse or an attendant should throw them, when changed, into the disinfectant given, page 156, the ingredients for which should be kept ready to mix freshly, whenever needed, in an adjoining room. All unnecessary articles of clothing or furniture, such as woollen curtains, bedside carpets, and rugs should be removed from the room. The carpet should be taken up, if possible, shaken, and put aside. All spoons, cups, etc., used by the patient should be kept near the room and washed there.

In scarlet fever, diphtheria, puerperal fever, and in other of the above diseases, when directed by the doctor, a large sheet should be nailed over the door and kept sprinkled with water, to which carbolic acid is added, one part of acid to twenty of water.

In most of these diseases, and emphatically in typhoid fever and dysentery, the *excrements are poisonous*, and the disinfectant, page 156, must be kept in the vessels used, all the time, and a little poured down the closet daily. When there is nothing but an outside privy instead of a water-closet, this liquid disinfectant must be used, as above, in the vessels, and chloride of lime thrown by the shovelful, now and then, down the vault over the surface of the contents.

When the disease is ended.

In order to prevent the spread of infection, and to render the room fit for occupancy again, there must be thorough disinfecting. Very mild cases of measles or chicken-pox do not necessitate this process, but the cleaning of the room should be very complete. To disinfect in other cases, see for a hospital ward, page 155, No. I. For a private house, No. II. or No. III. will be sufficient.

After disinfecting, if the carpet was not taken up at first, it must certainly be done now. It must be rolled up tight in a clean cloth to be carried away, and beaten in some unfrequented place. The walls should be dry rubbed with cloths, which must be burned afterwards. Should there be wall-paper, remove it by wetting with one ounce of chloride of lime in one gallon of water. The windows, paint, furniture, and bedstead should be washed with hot soapsuds, and the ceiling calcimined.

The mattresses and pillows should be made over be-

fore being again used, and the blankets and all bedding washed in *hot* carbolic soapsuds.

In smallpox, mattresses, pillows, and blankets are to be sprinkled with a little sulphur and burned.

The floor should be scrubbed, and the room left open to the sun and air for two weeks or more. All woollen clothing or furniture covered with worsted, which could not be taken from the room, must now be thoroughly brushed in the open air, and exposed to the wind and sun. A nurse must use her influence to have these precautions taken, and *assist* in carrying out these rules. When she has observed in the house a foul odor from waste-pipes or cesspools, a leakage of gas, wet spots in the plastering, or impure air finding its way into the rooms from furnace or damp cellar, the nurse should notify the family of the danger arising from these sources. Families will, in most cases, listen to the suggestions made by an intelligent nurse for their own comfort and safety.

The nurse's care of herself.

The nurse should be careful not to inhale the patient's breath, and may, with advantage, take a small dose of quinine daily. Personal cleanliness must be strictly observed. The food should be simple and nourishing.

In these, and in all other cases where *constant* attention is needed, a nurse may get fresh air in the following way, if not able to go far from her patient:

The windows of an adjoining room can be thrown wide open, now and then, and the nurse, protected from the cold, can move briskly up and down for fifteen minutes, or even sit still in the fresh air. She will be better able to care for her patient by this little relaxation. When the disease is ended, the nurse must disinfect her own clothing and thoroughly shampoo her hair.

DISINFECTANTS.

To purify a room after a contagious disease, first stop up all the cracks about the windows and doors with strips of paper dipped in flour-paste; stop the chimney, the register, the key-holes, and then, before moving anything out of the room, disinfect it in one of the following ways:

I. For a small ward.

Black oxide of manganese . .	8 ounces.
Table-salt	8 "

Well mixed.

On this pour

Sulphuric acid, commercial .	1½ pints.
Water	1 "

Well mixed.

The dry mixture is to be distributed on saucers about the ward, and the liquid poured quickly over it; begin with the saucer farthest from the door, and hurry with the work; leave the room immediately; close the door and lock it for a night; then throw open doors and windows and air the room for a day or two. If the room can be filled with steam just before the disinfectants are placed, the gases will be more effective.

II. For a private house.

Put large pans of chloride of lime about the room and pour over it very strong vinegar; chlorine gas will be disengaged; hurry from the room.

III. A simpler process.

Sprinkle powdered sulphur on tin plates raised on bricks, and stood here and there about the room; light it and hurry away. The fumes will bleach the color out of any articles exposed.

For water-closets, vessels, stationary tubs and basins, bath tubs, and any other drain-pipe.

Hot water	2½ gallons.
Copperas	4 pounds.
Carbolic acid . . .	4 ounces.

Mix well together and pour into the foul place. This will stain clothes.

For swill-pails.

When empty, sprinkle with chloride of lime, and rinse well in clean water after a few hours.

Cesspools, their overflow, and privies.

Dry copperas or chloride of lime by the shovelful.

For disinfecting erysipelas bandages, poultice-cloths, etc.

Carbolic acid	2 ounces.
Hot water	1 gallon.

Soak the articles twelve hours, then wash, and use only for the same case. Burn them afterwards.

For washing bed and body clothing in erysipelas, smallpox, and other contagious diseases.

Sulphate of zinc . . .	2½ ounces.
Carbolic acid . . .	1 "
Hot water	1 gallon.

Soak the articles twelve hours, then wash; use only for the same case and burn them afterwards.

Hot water is necessary, as carbolic acid is very slightly soluble in cold water unless combined with glycerine. Ask your druggist for "Calvert's Carbolic Acid, No. 1."

Disinfectants, to be effective, should be used freely; and any garments or cloths put to soak should be fully covered with the liquid and occasionally stirred.

CHAPTER VIII.

EMERGENCIES.

Drowning.

On first rescuing a person from the water turn the face downwards for a moment, and have some one pass the finger into the mouth and hold down the tongue, so that the small quantity of water and mucus which collects across the windpipe may escape. If a shelter is near, carry the body to it as quickly as possible; if not, don't attempt it. Lay the body down with the head, neck, and shoulders raised a little; take off the wet clothes from the chest and feet at least, and begin at once to make the attempt to restore respiration artificially. Kneel behind the body; take hold of the arms just above the elbows, draw them away from the sides and up over the head until the hands meet, counting one, two; lower them again, bending the elbows, and bringing them up over the pit of the stomach with pressure, counting three, four. Continue this, making the whole movement sixteen times a minute, and do not stop for two hours. Meantime, some one must be holding the patient's tongue out between the teeth, and others must be rubbing him towards the heart with all the warm things that can be collected. Cover him with dry coats loaned by the bystanders; keep a wide circle round him free, so that air may be secured. When vitality shows itself, brandy and water in small doses often repeated must be given, and milk or beef-tea. Persons have been restored who have been under water half an hour.

Broken bones.

The right thing to do in an emergency of this kind is simply to keep the part as still as possible until the arrival of the surgeon.

Take two shingles, two sticks, or even the leather covers of an old book, put them on either side of the limb, and fasten a couple of handkerchiefs round them at either end. If the leg is injured it can, instead of this, be tied firmly to the other leg; this will probably bring it into the right shape. Put it close alongside the other, and in the same position; tie a scarf or handkerchief above the knees, and two more at intervals below.

If a collar-bone is broken, put the arm into a short sling, supporting the elbow well. If a joint seems dislocated do not attempt to pull it, a bone may be broken; keep it still and send for the doctor.

Contusions.

When any part of the body is crushed, a foot, hand, etc., raise it above the heart if possible, apply ice or cold water, and *keep it cold.* This will stop the oozing of blood, and probably prevent inflammation.

For the common accident of a badly mashed finger put on cold, wet cloths, and carry the hand in a short sling.

If the knee-cap is broken, lay the patient down and keep the heel raised.

Foreign bodies in the ear.

Never poke and push at the object in the ear. Should it be an insect, turn the head on one side, take hold of the tip of the ear at the top, and pull the ear up a little; this straightens the tube; then pour sweet oil freely into

the ear and hold it there for a while; the insect will float to the top, and can be removed with the oil. If any hard substance, like a pebble, has been put in by the child, a stream of warm water forced in behind it from a syringe, will drive it out. That side of the head should be held towards the floor, so that the object may more easily fall out. But should it be something that will swell with moisture, like a bean, etc., take the child to a doctor.

Foreign bodies in the nose.

The child should take a full breath through the mouth, which, with the uninjured nostril, should then be held tight, and the child told to breathe hard through the nose, a slap on the back being given at the same time. If this does not answer and the obstruction is near the nostril, hold the nose firmly above the object and hook the latter out with a bent hair-pin, or else take the child to a doctor.

Foreign body in the eye.

If the object is under the lower lid, pull the lid down, direct that the eye be turned towards the nose, and remove the particle, rubbing in the same direction with a camel's-hair pencil or a soft rag, or the end of the finger. If the object is under the upper lid, lay a pencil or knitting-needle or paper-knife across the lid, turning the lid up over it until the object is seen; remove in the same way. If the object adheres to the surface of the eye, and enters it, as a bit of iron-filing may, a physician should be consulted at once.

How choking can be relieved.

A smart blow with the flat of the hand on the back, just below the neck, will often relieve the wind-pipe when obstructed; but if one or two do not dislodge the sub-

stance, they should not be repeated. Send for the doctor. A child may be taken up by its feet, head downwards, and a slight blow on the back will bring relief. This method, though it seems harsh, is effectual.

What can be done in case of fire.

If the clothes take fire, roll the child or grown person upon the floor over and over, seize, if possible, or call for a rug, blanket, or anything of wool to wrap him in. If you do not in this way extinguish the fire, you will at least lessen the chances of the chest being burned, and of the flames being inhaled.

How burns should be treated.

Great care must be taken in removing the clothes not to pull off the surface of the skin, which will seriously increase the danger. Olive oil, that is not rancid, may be poured over the burns,—linseed oil, if at hand, is better,—and lard may be used if oil cannot be had immediately. Fine wheat flour should then be dusted over the oiled surface. This can be done with a dredging-box. The layer of flour should be quite thick, and should extend beyond the burnt surface. Over this again should be placed a layer of fine cotton batting, which may be kept in place by very light bandaging. If the extremities are cold, put bottles of hot water around the feet, and in cases of extreme prostration, hot brandy and water, wine-whey, or milk-punch may be given freely, until the arrival of the physician. Scalds may be treated in the same way.

Attention must be given to the secretions, which must be kept free. Any symptom which may indicate inflammation of the head, chest, or abdomen must be reported, and opiates, or whatever is ordered, must be carefully given, while the strength is kept up with good food.

Burning by lime, potash, etc.

The destruction of the soft parts beneath the skin is very rapid; apply vinegar and water at once to unite with the alkali and prevent further harm, then treat as any burn. Do the same if a fragment of lime should have got into the eye: apply vinegar and water, or lemon-juice and water, immediately, and go to a physician.

Acids

Oil of vitriol, nitric acid, and other acids eat quickly into the skin; pour water over the part to neutralize the effect, or apply a handful of earth, and afterwards treat like any burn.

Scalds.

Treat these as any other burn. They are very serious if extensive, as the skin is generally entirely removed from the part burned.

Poisons.

When poison of any kind has been swallowed, try at once to promote vomiting. Give a tablespoon of ground mustard in a tumbler of warm water, a quarter of it at one time, followed by a cup of warm water, then another quarter and more warm water; keep this up until vomiting is secured.

Tickling the back of the throat with the finger or a feather is a help. After free vomiting, give the whites of two eggs stirred in a tumbler of water. If the mouth is tight shut, let some one pass the thumbs along the cheeks inside the mouth, and work them in behind where there are no teeth, keeping them there while the emetic is given. Always send for the doctor.

If there is no mustard, common salt will do as well, as much as a tumbler of warm water will dissolve. After vomiting is over, a quantity of warm milk may be given. In opium poisoning give strong coffee. If stupor comes on, slap the bare skin with the end of a wet towel, and keep up artificial breathing if necessary. If the poison is *an alkali*, such as washing-soda, etc., give vinegar and water as soon as possible without waiting for the emetic which must be given, to take effect. If *oxalic acid*, which is frequently kept on hand to clean brasses, has been swallowed, give at once a tablespoonful or more of magnesia or common whiting, such as is used to polish silver, and follow it in two or three minutes with the emetic. If *arsenic* has been taken, give the emetic at once, and send *or take* the patient to a druggist's for dialysed iron,—a tablespoonful every few moments is the dose.

Bites.

For the sting of any insect which becomes painful, apply salt dampened and rubbed in, or hartshorn and water. Where there is suspicion of poison, treat like the bite of a mad dog.

Rabid dogs and poisonous snakes.

The bites of these should be treated alike. Let some one (the patient is the best person when he can reach the place) take up the flesh on either side of the bite firmly between his teeth and suck the place, putting out the saliva at once. If the position of the bite allows it, tie a handkerchief firmly round the limb above the wound. Meantime, the poker or a nail should be made red-hot and pressed well into the wound over the whole bite. When the burning is properly done the tissues will be white. Give as large a dose of brandy as the patient can bear.

Stick caustic will answer, moistened in water, in place of the poker.

Poison ivy.

The itching and discomfort may be relieved by bathing the part in a mixture of

Two teaspoons of carbolic acid, pure.
Two tablespoons of glycerine.
One-half pint of water or rose-water.

To stop bleeding.

When blood comes in jets, with a spurt at each beat of the heart, an artery is cut. Lose no time in sending for the doctor. Meanwhile, fasten a firm pad tightly over the place, and, if the wound is in the hand or arm, compress firmly with the fingers the brachial artery; if the blood comes from the foot or leg, compress the femoral artery against the pelvic bone in the groin. If the head or body is injured, where the artery between the wound and the heart cannot be compressed, take a dry towel, fold it and press firmly upon the bleeding part, and do not relax the pressure for an instant until the doctor comes. One person may relieve another. Ice should be applied all about the wound, and when it is possible, the injured part should be raised above the heart.

If the flow of blood is slow and deep red there is less danger, but it must be stopped. Make a firm pad and press it over the wound, fastening it in place with a bandage; use ice, as in the other case, and keep the part raised.

Fainting on loss of blood is useful; for the time it helps to arrest the flow and should not be interfered with. After the bleeding is stopped the head may be raised, and a teaspoonful of brandy in a little water may be given, and repeated every half-hour until the faintness

has gone. The tight bandage tied round the limb may be an injury if long continued. Let there be no delay in sending for the doctor.

Bleeding from the nose.

Lay the patient down with the head raised, never hold the head over a basin; apply cold, either ice or cloths dipped in water, across the nose and round it and over the forehead. Raise the hands above the head. If bleeding is excessive in spite of this, send for a doctor. The patient should breathe only through the mouth, and should avoid blowing the nose.

Bleeding from the lungs.

The blood in this case comes in small quantities, is light red and frothy, and sometimes contains mucus. The common practice of giving dry salt in this case will often be very injurious; it irritates the throat, makes the patient gag and cough, and frequently produces vomiting, all of which is extremely bad. Give, instead, small pieces of cracked ice, to be swallowed whole; keep the head and shoulders raised, and send for the doctor.

Bleeding from the stomach

need never be mistaken for bleeding from the lungs; the blood comes in much larger quantities, and is thick and dark, and is vomited up. Apply a mustard-plaster over the stomach and give cracked ice, and send for the doctor.

PART II.

DIRECTIONS FOR MONTHLY NURSING.

THE object in giving such full instructions as are here found for the care of lying-in women, is not that nurses may supplant doctors in such cases, but for the reason that it not uncommonly falls to the lot of the nurse to deliver the child in the absence of the physician ; and in order that these chance cases may be properly attended to, it is essential that the nurse or midwife, as she may then be suitably called, should know all that is here taught. Chapters II. and III. are adapted to such emergencies.*

The directions given cannot be put in practice by any beginner. They are intended to supplement a full course of instruction, including the study of anatomy, such as training-schools for nurses usually furnish.

When a nurse is prohibited from attending a lying-in case.

A nurse is never to go to a confinement case from a case of erysipelas, typhoid, puerperal, or eruptive fever, diphtheria, or any surgical case beyond simple fracture.

When obliged to break an engagement with a patient

* The greater part of these instructions have been kindly prepared by Dr. S. H. Chapman, and are principally a translation from the "Prussian Hand-Book" of Dr. J Hermann Schmidt.

for any of the above reasons, she must communicate with her by message or note, and have no personal interview.

After nursing any of the above diseases, the nurse must not make an engagement for monthly nursing without first seeing the physician in charge, and learning from him whether she is free from the danger of carrying disease to his patient.

No article of dress, no catheter, syringe, scissors, clinical thermometer, or work-bag, etc., used while in care of either of the above diseases, must be brought into the lying-in room.

All such articles are unfit for use again until they have been washed in carbolic acid and water, one part of acid to twenty of water.

CHAPTER I.

THE CONDUCT OF THE NURSE DURING THE FIRST STAGE OF LABOR.

Arrangements to be made in the patient's room.

As soon as the nurse finds that labor is really in progress, she must get everything necessary in order.

The room which the pregnant woman is to occupy during and after her confinement should be well ventilated, warmed, and situated in the quietest part of the house.

Everything which has a strong or unpleasant odor, like flowers, soiled linen, etc., should be taken away.

Domestic pets, as cats, dogs, and birds, should likewise be removed, as they are likely to disturb the patient.

No persons, except the nurse's assistants, can be allowed in the room, since their agitation, expression of sympathy or fussy attentions, excite the patient and hinder the nurse in the exercise of her duties.

The position and condition of the room.

If the nurse is allowed the selection of the *room*, she must choose one which is removed from the noises of the street and house, one which is dry, warm in winter, or cool in summer, and is far removed from kitchen- or house-drains.

During winter the temperature should be constant at 70° Fahrenheit.

At no season of the year should brilliant light be allowed in the room, and the night-light, which the nurse

must be careful to keep burning, must be either a candle or an old-fashioned oil-lamp; as kerosene has a disagreeable odor, and gas renders the air impure.

What should be ready for use.

The room should be supplied with some mild oil for use in examination and in giving injections, with a bottle of vinegar, drinking-water, ordinary water, soap and towels, and finally a night-chair, or something which answers the same purpose, for the use of the patient in urination and defecation; for *under no consideration should the patient be allowed to use the ordinary water-closet.*

The nurse must furthermore see that a sufficient supply of hot and cold water is ready in the kitchen or bath-room; that there are on hand drinking-water and a glass; a dozen clean towels; basin and soap for the doctor's hands; extra sheets and blanket; two chamber vessels, a bedpan, a urinal; ice, a vial of carbolic acid and glycerine, mixed in equal parts, for disinfecting purposes about the patient; lard or vaseline; a change of clothes for the mother; a towel or band suitable for the abdomen; napkins for mother and child; clothing for the child, and a little washable blanket to receive the child in. There must also be ready the articles necessary in bathing the child, viz.: a small bath-tub, clean and soft linen cloths, and a clean and soft sponge.

The proper position for the bed.

1. The bed must be so placed that no draught of air will cross it, and the direct heat of the stove or register cannot reach it.

2. If possible, the bed should be so situated that the nurse can approach both sides.

How the patient should be placed.

The parturient woman should *lie upon* the bed and not sink into it; with the pelvis slightly raised, so that the vulva may be free from contact with the bed.

Hence feather-beds and all soft and yielding mattresses are to be avoided; the best is a well-stuffed and firm mattress, a very stiff spring-bed or wire-woven bed.

The pelvis should be raised a little by means of a hair pillow, or something that will take its place, as, for instance, folded blankets or sheets, while the head and back should be supported by soft pillows. The covering of the bed should be composed of some material which combines the greatest possible warmth with the lightest weight: the best is a down coverlid; but this coverlid must not be left over the patient if it produces perspiration; and in any case it must be regularly aired, as also the blankets and any other article used about the bed which is not frequently washed.

The patient must be able to support herself by her hands and feet during labor.

For the pressure of the feet, the foot-board of the bed answers sufficiently well, while sheets fastened to the bed-posts or the foot of the bed, and knotted here and there, so that the hands will not slip, furnish her with the means of supporting herself by pulling with the hands.

How the bed should be protected.

In order to preserve the mattress clean and dry, a large piece of rubber-cloth should be placed over it beneath the sheet, in the region of the pelvis; the mattress being covered with sheet and cloth, in the following order: first the rubber-cloth and sheet, then an extra cloth, then a

second sheet. This order is necessary to be followed, so that when labor is finished the soiled sheet and cloth may be removed, by folding them down from the top, leaving a clean and dry bed for the patient.

Preparing the patient.

After making these general preparations, the nurse should get her patient in readiness for the labor: should assist her in undressing, brush her hair,—for this cannot be done again for several days,—bandage the limbs if varicose veins be troublesome, and allow her to eat and drink freely of easily-digested food and unstimulating fluids. The best food is soup and beef-tea, and farinaceous dishes; the best drink simply cold water.

Many patients require to have the vulva washed in a weak solution of the carbolic acid and glycerine,—a tablespoonful to a quart of water, to prevent the action of decomposed discharges so common at this time.

Clean night-clothing should be put on, and if the patient is walking about, she must be protected with a warm double gown.

In every case the nurse should give an injection, whether defecation have taken place or not within a few hours. The injection may be either chamomile-tea or warm water with two teaspoonfuls of oil, and a teaspoonful of salt; the latter, however, may be omitted, if the bowels have moved within a short time.

In addition to this, *the nurse must take great care that her patient passes water.*

From time to time her attention must be called to it. She must make the attempt, and the nurse will be able to tell from the difficulty in passing water, and from the quantity passed, whether the bladder be emptied.

Naturally this only applies to those cases in which there

is no inclination to pass water, for there is usually great urgency of desire to micturate.

If the nurse finds that no urine comes away for a long time; if the patient feels great anxiety and restlessness, and even pain, the location of which she is not able to describe; if, furthermore, the head has descended quite low in the pelvis, the nurse will understand that the bladder is distended and the urethra is closed by the fœtal head.

She must then introduce two fingers into the vagina, and in the interval between the pains gently press the fœtal head upwards and away from the urethra, when the bladder will usually be emptied spontaneously; if not, the catheter must be used, and a nurse should have for each case a new soft flexible rubber catheter.

What examination should be made, and how.

From time to time the physical examination of the patient must be made.

The presenting portion of the fœtus can be felt now, not only through the vaginal wall, but also through the relaxed membranes, by passing the finger through the opening os. Although the nurse may previously have been undecided as to what part of the fœtus presents, yet now she can decide with certainty at least this, viz.: *whether the head presents*, and whether any other part beside the head is lying near it. It is not difficult to recognize the head by the touch, because of its hard surface, its sutures and fontanelles, any one of which being really made out, is sufficient to decide the question as to whether the head presents or not.

It is much more difficult to distinguish one soft part of the fœtus from another, but the nurse should at least be able to distinguish the soft parts from the head, if they should be in juxtaposition.

When these examinations should be made.

These examinations should be made in the intervals between the pains, both because during the pains the membranes are distended into a pouch, and the fœtus cannot be reached by the finger, and because of the danger of rupturing them when stretched in the attempt to reach the fœtus.

Occasionally, however, it will be of advantage to introduce the finger during a pain, and pass it gently around the protruding pouch in order to see how much the os is dilated; for in this way only can the nurse decide this point, since in the intervals the os contracts to some extent, and its size at these times is not a true indication of the progress of the dilatation.

How often examinations should be made during the first stage.

During the first stage of labor, the nurse should not make the examination too frequently. As soon as the position of the child is made out, she should make examination at intervals of several pains only, in order to know when the end of this stage is reached. Too frequent examination is not only unnecessary but also actually harmful, because the vaginal and cervical membranes are irritated, this irritation being sufficient cause to produce irregular labor-pains.

Long pauses between the pains, at this stage, not harmful.

The pauses between the pains, during which the os uteri contracts and there is an absence of true pain, are at the beginning of this stage of long continuance.

This does no harm, but, on the contrary, is a benefit; for the patient has the opportunity to recover her strength and equanimity.

It is therefore unadvisable to use, or allow the use of any means which tend to shorten this interval.

The nurse must endeavor to soothe her patient, give her courage, alter her position so as to give relief to her weariness, and sustain her strength by easily-digestible food.

Finally she must forbid the use of coffee and stimulants, and the harmful attempts of her eager patient to assist the pains.

What the patient may be allowed to do.

The patient may be allowed to *walk up and down her room* or to *stand* during the first stage of labor.

This rule applies very generally to all cases in the first stage, although there are exceptional cases, as, for instance, multiparæ with the history of very sudden expulsion of the fœtus, whom it will be advisable to place in bed at the beginning of labor.

Although the standing or walking of the mother aids somewhat in developing the first stage, it is not a necessity; so that the nurse may allow her patient to follow her own inclination in this matter, being careful only to be at hand to aid in any emergency.

The parturient woman will often find relief during the pains in leaning against the wall, her hands firmly grasping a chair or the hand and shoulder of the nurse, or in sitting upon a chair and bending forward with her hands upon her knees; in short, the patient will, during this stage, take every possible attitude.

And it is the nurse's duty to watch and interfere only when injury is likely to follow, either to mother or child.

At the same time it will be well to prepare the mind of the parturient woman for the rupture of the membranes and the escape of fluid, because primiparæ es-

pecially are apt to be frightened by what seems to be the tearing asunder of some internal part and a terrible loss of blood.

When the patient should lie down.

It is safe to put the patient to bed when the pains pass from back to front.

It is not necessary with primiparæ until after the membranes are ruptured; but in the case of multiparæ, as soon as the nurse, by an examination, finds the membranes very tense and the os uteri widely dilated, the reclining posture must immediately be taken, since there is danger of sudden expulsion of the fœtus, owing to the greater laxity of the soft passage from previous labors.

The patient's clothing should now be folded up smoothly and fastened with safety-pins, so as not to interfere with her movements, but to keep the clothes well out of the way, and a folded sheet may be pinned loosely about the person. All clothing must be aired and warmed. The patient must give no assistance in this dressing.

The usual positions taken.

There are two *positions* which the parturient woman may take upon the bed, viz., upon the *back* and upon the *side*.

Of these positions, the former is the more usual; it often happens that when left to herself she will choose this position, and while turning occasionally upon the side, will at last take the position upon the back, for the final effort.

Sometimes, however, the patient may find the position upon the side more agreeable, or the nurse may be requested by the physician in attendance to turn her upon

her side, hence it will be necessary for the nurse to be skilful in delivery in both positions.

In the back position, the legs are stretched apart, the one nearest the nurse being bent so as to allow the arm to pass beneath it.

In the side position, the hips are drawn toward the edge of the bed, a folded quilt is placed between the knees so as to separate them, and the pillow which was used to elevate the pelvis in the back position, being no longer necessary, is removed.

In both positions the bed-covering must be so arranged as to cover the patient, and yet be removed from danger of being soiled by the discharges from the generative passage.

What the first stage tests.

The first stage is in many ways a test of the skill and knowledge of the nurse.

Her way of treating the parturient woman, and of preparing the room for the labor; her self-control and patience, or want of these qualities; her skill in diagnosing the presentation of the child, will readily show the physician in attendance whether she be worthy of the great responsibility that has been imposed upon her.

What the nurse must discover early.

It is of very great importance to know early in the course of labor whether the position of the child be regular or irregular; for if irregular, there is time for the physician in attendance to turn the child by external manipulation, and thus change the labor from an irregular and difficult one to one regular and comparatively easy.

Hence the nurse must be sure to discover *early in the first stage the presentation of the child.*

CHAPTER II.

THE CONDUCT OF THE MIDWIFE DURING THE SECOND STAGE.

In the second stage of labor the midwife completes the diagnosis of fœtal position which was perhaps only partially made in the first stage, or entirely missed by her because called too late.

At what moment and how the child's position may be discovered.

If before the rupture of the membranes she has been unable to recognize with certainty the position of the child, the very best time to do so is immediately after the discharge of fluid has taken place.

This is of so much importance that the necessity for the introduction into the vagina of even the entire hand for its accomplishment should not deter her. In such case, the entire hand smeared with oil is gathered in a conical shape and slowly but firmly pushed into the vagina in the direction of the axis of the pelvic outlet.

Inactive, patient waiting upon nature does not answer here: the case demands prompt action on the part of the midwife; for if the fœtus lies in an unnatural position, the fact must be discovered at once, as the time for remedying it is very short.

A midwife who will wait under these circumstances, in the hope that when the fœtus is deeper in the pelvis its position may more easily be made out, lays herself

open to the charge of great ignorance or culpable carelessness, since her hesitation not only makes the task of the accoucheur more difficult, but also endangers the life of mother and child.

If during the first stage the midwife has made out a head presentation, her next duty will be to learn whether, after rupture of the membranes, *any other fœtal parts have descended beside the head;* for sometimes an arm or a portion of the umbilical cord will float down with the rush of water and present at the distended os uteri, in which case it will be necessary to send for the physician in charge.

In making examination to this end, the midwife passes one finger carefully around the head, so far as it can be felt without pressing the finger between the head and mouth of the uterus.

Another result is also obtained by this examination, viz.: a knowledge of the location of the fontanelles, and hence of the kind of head presentation, in each case.

Previous to the rupture of the membranes, the fontanelles are with difficulty recognized, with much more difficulty distinguished one from the other; but after the rupture, one or both may readily be felt and recognized, so that the position of the head may be decided with certainty.

Object of examinations.

When the midwife has satisfied herself by careful and repeated examination that the head is presenting, and in what position, she must observe the following rules in making further examinations:

1. She makes an examination *during a labor pain* to test the *effect of the pains*,—that is, whether during their continuance *the head advances;* this effect is recognized by pressing the finger upon the fœtal head, keeping it

in the same position, and, after the pain ceases, observing the head; examination should be made during every pain, whether the head recedes or not. This examination furthermore decides whether the pelvic canal is large enough for the passage of the fœtal head.

All previous calculation of pelvic diameters is useless as regards the relative size of pelvis and fœtal head in individual cases, for although the pelvis may be normal in size, the head may be abnormally large.

The only test useful to the midwife in deciding this question is that already given, viz.: *the advancing and receding of the head during and after a pain or its absolute immovability.*

Whether the child lies in a good position is a question to be decided during the first stage; whether it is possible for the child to be born in this position is a question that can be answered only in the second stage of labor.

2. Examinations must be made more frequently than during the first stage, in order that the head may not unawares pass the vulva. With swift advancement of the head, examination should be made during every pain.

When then the head advances slowly, this extreme caution is unnecessary; yet the midwife must remember that the pelvis may have a larger diameter below than at its brim, owing to some irregularity of shape, and hence the head may advance slowly at first and afterwards rapidly. Hence, if there be an intermission in examining, the midwife must place a finger of one hand upon the vulva in order that any pressure upon it may be communicated to the hand immediately.

What the midwife should not do.

The chief duty of the midwife in the second, as in the

first stage of labor, consists in quiet and unofficious observation of the progress of labor.

There is very little to do, but much that should be avoided; for instance, the patient should not be exhorted to assist the pains by pulling,—a practice very common among unskilled midwives. The desire to assist the pains is, at the proper stage of labor, irresistible, so that if the mother exerts physical effort at the request of the midwife only, no useful aid is given the pains, and the consequent exhaustion is harmful; hence the midwife should remember the following rule: *do not suggest to your patient that she make physical effort, because this will come at the proper time of its own accord.*

It often helps on a tedious labor if the patient will hold her breath during a pain, and not scream and breathe rapidly, as women are likely to do.

What help can here be given the patient.

The only help which the midwife can give the patient is in arranging her bed so that she may be comfortable, in supporting her back with her hands, and in counselling her to be brave and not endanger the effect of the pains by useless tossings or loud outcries.

What must not be allowed.

Above all, the midwife must remember that the patient's desire to defecate is due to the pressure of the fœtal head upon the rectum, and under no circumstance may she be allowed to sit upon the night-chair, since there is danger that the fœtus also may be expelled, and injury to the mother and child follow.

What is important during the passage of the head.

During the passage of the head through the vulva, the

most important duty of the midwife is to *support the perinæum*, since this is in danger of being torn.

Upon this point the following observations must be made:

1. Above all things, it is necessary that the fœtal head separate and pass through the labia slowly; the more slowly this takes place the more completely are they stretched, and the less danger of rupture of the perinæum. Hence the midwife must attempt to control the severity of the pains and the expulsive power by lowering the head of her patient, by advising her not to press down, by taking away the pulling-straps, and by restraining with her hand the progress of the head.

The patient should not hold her breath, but breathe rapidly while the head is passing the vulva.

2. Before the face passes over the perinæum, the occiput should be so far beyond the symphysis that the nape of the neck may lie immediately beneath it, in order that the head may be born with its short diameter adapted to the longest diameter of the outlet.

How the perinæum should be supported to effect this.

In order that this may take place, however, it is necessary that *support* should be given to the *perinæum* according to the following directions:

1. If the mother lie upon her back, the legs must be bent, with the knees wide apart, which one of the assistants may support in this position. The nurse now takes her seat upon a chair, or on the edge of the bed, on that side of her patient to which she is most accustomed, usually the right side. So soon as the perinæal tumor begins to be formed, in primiparæ, and even before this, in multiparæ, the midwife prepares to support the perinæum by laying one hand upon it.

It is essential that this laying on of the hand should be done in a proper manner, else harm instead of benefit will result.

How the hand should be laid on.

The following is the way in which this must be performed:

a. If the midwife sit on the right side of her patient, she must carry her right arm over the right thigh of her patient, place the palm of the right hand upon the posterior commissure of the vulva, and spread the fingers out over the perinæum and anus.

b. If she sit upon the left side, the left arm and hand must be used in a similar manner.

2. If the mother lie crosswise upon the bed, in the position taken for operation upon the uterus, the nurse stands between the knees, and places either hand upon the perinæum in the manner already described.

3. If the mother lie upon her left side.

a. The midwife takes a seat behind her, lays the palm of the right hand upon the anus and perinæum, and stretches the fingers out over the vulva, so that the thumb rests upon the right, the other fingers upon the left labium, and the stretched membrane between thumb and first finger rests upon the posterior commissure.

b. If the mother lie upon her right side, the midwife sits on the other side of the bed, yet at the back of her patient, and uses the left hand in the manner described for the right.

Why the hand should be so applied.

Applying the hand in this manner is for this purpose only, *to be ready* to give support when it is needed, and not, as is sometimes supposed, for the purpose of giving

constant support to the perinæum. Too early support is harmful, since it may check the onward progress of the head, may give rise to irregularity in the pains, and may prevent the occiput from pressing so far beyond the symphysis as is necessary to bring the short diameter of the head in relation with the long diameter of the vulva.

The right moment to give support.

The right moment to give support is when the nape of the neck lies beneath the symphysis; then the hand which has been lying quietly upon the perinæum must, during every pain, oppose itself to the downward progress of the head, by pressing gently from behind forwards, from below upwards; an action which is more like traction than opposition, tending to draw the face forwards and make it describe a curve, until at last the head glides over the hand and is born.

While support is given, especial watch must be kept upon the posterior commissure, because here the dreaded rupture usually begins, but also watch must be held over the entire perinæum, lest in a moment it may be rent even to the anus.

With the advancing of the head, and the retraction of the perinæum from it, the hand must not be allowed to follow the head, but always the perinæum, since all danger of rupture is not passed until the head is born.

Inelastic tissues.

When the tissues of the outlet are inelastic, as is apt to be the case with middle-aged primiparæ, or the pains very violent, it is desirable that the face should pass over the perinæum slowly and by degrees, to give the tissues time to become thoroughly extended.

In such case the management of the head by the midwife is different from that already described.

If the midwife finds by carrying two fingers of the unemployed hand from the anterior commissure downward along the edges of the labia, and around the posterior commissure, that the tension is severe, and rupture is threatened, she must strive to check the farther progress of the head during a pain. She will be able to do this by pressing these two fingers upon the head, while the other hand supports the perinæum. It may be necessary to do this during several pains, until the tissues have had time to become fully stretched, then the head will be born without accident.

When especially support must be given.

Especially careful support must be given the perinæum when the head presents in the *second position,* in which the occiput passes over the perinæum instead of the face; because the long instead of the short diameter of the head is in relation with the long diameter of the outlet.

What must be done as soon as the head is born.

As soon as the head is born, the midwife, with the unemployed hand, must feel whether the *umbilical cord is wound around the neck of the child or not.*

If this is found to be the case, the midwife should try various methods in the following order to remedy the condition:

a. If the cord encircle the neck but once, gentle traction upon it, in one direction and another, may loosen it so much that it may be passed over the head.

b. If the cord encircle the neck more than once, an effort should be made by gentle traction to release the

loosest coil, after which the others may be unwound without difficulty.

c. If this is unsuccessful, the coils must at least be loosened so that they produce no strangulation of the child, and a further attempt to remove them may be made after the birth is ended.

d. If none of these measures are successful, and the face of the child shows symptoms of strangulation, the midwife must carefully cut the cord, and give the cut ends to an assistant to hold and compress until they can be tied.

All difficulty of unwinding the coils is ended as soon as the tied ends are released.

With the unemployed hand the nurse must now support the fœtal head in such a way that the nose and mouth are not obstructed, and as the body turns in its forward progress the head must also be allowed to turn.

The support of the perinæum must continue.

The same support must be given the perinæum while the shoulders are being born as previously for the head. Usually after the head is born there is an interval of quiet, lasting several minutes; during this the midwife must quietly wait, holding the head with one hand and supporting the perinæum with the other.

If the face of the child begins to turn blue, or the interval is prolonged to unusual length, what the midwife may do.

She may be allowed to use the following means:

1. Gentle circular rubbing of the abdomen in the region of the fundus uteri, in order to restore the activity of the pains.

This must be done by an assistant; the hands of the midwife are already occupied.

2. If no result follows this treatment, the midwife must proceed to deliver the shoulders in this manner: the first finger of the hand which has supported the perinæum is introduced into the vagina, pushed along the back of the child until it reaches the lower and posterior shoulder, is crooked like a hook and passed under the arm, and gentle but firm *traction* then exerted until this *shoulder passes over the perinæum;* the other will then readily glide from beneath the symphysis. *Traction on the head is never allowable.*

What should be done after the shoulders are born.

After birth of the shoulders, support of the perinæum is unnecessary.

The hand which has supported the perinæum now grasps the buttock as it appears from between the labia, while the other continues to hold the head.

In delivering the child thus, the midwife must not draw the child far from the vulva, but only far enough for the feet to be born.

When the feet are born what the midwife must do.

She must lay the child down at right angles to the mother, with its face, breast, and abdomen toward the vulva.

The child, which is still connected with the mother by the cord and placenta, must be laid near enough to the vulva to prevent traction on the cord, and covered, with the exception of the face, with some light, warm cloth.

As soon as the child is born the nurse should examine carefully as to the amount of flow; if it is profuse, she

should place her hand over the fundus to see whether the uterus is firm; if not, she should try to bring on a contraction by rubbing the fundus through the abdominal walls; if this fails, the cord should be tied and the placenta delivered.

CHAPTER III.

CONDUCT OF THE MIDWIFE DURING THE THIRD STAGE.

What two things remain to be done immediately after the child's birth.

After the birth of the child there still remain two operations:

1. *Separation of the child from the after-birth.*
2. *Removal of the after-birth from the mother.*

In what the first consists.

Separation of the child from the after-birth consists in *tying* and *cutting* the cord.

On this subject the following may be observed:

The child at first breathes irregularly and stertorously, but soon begins to cry lustily; while this is taking place the *pulse in the cord* becomes irregular, and finally *ceases altogether.*

Now is the time when the midwife should ligate and cut the cord; if the operation should be performed before this, injury may be done to the child.

If the child does not immediately begin to breathe, the midwife can remove from its mouth any mucus that may be present, with her little finger covered with soft linen, and treat as directed at the close of this chapter.

The time during which the child is beginning to breathe and the umbilical pulse to cease, may be utilized by placing the hand upon the fundus uteri, in order to learn the

condition of the uterus, and especially to learn whether there exists a second fœtus.

How the cord should be tied.

The *cord* should be *tied* in the following manner:

Around the umbilical cord, at a point a hand's breadth from the umbilicus, a strong, not too fine, silk or linen string should be placed, and tied with a surgical knot. The hands, in drawing the knots, should support one another, so that if the string breaks, no injury may happen to the cord or umbilicus by the sudden jerking motion of the hands.

The cord should be tied at this distance from the abdomen of the child in order that there may be room for other ligatures, in case the first slips or hemorrhage takes place.

If the cord be thin and weak, care must be exercised not to make the ligature sufficiently tight to cut it, while if the cord be thick and strong, the ligature should be made as fast as possible.

When this is done, a second ligature must be tied in a similar manner, at a point an inch nearer the placenta than the first, and the cord cut in two between them with a pair of scissors made for the purpose.

The obstetric scissors differ from the ordinary only in possessing rounded tips, in order that the danger of wounding the child, whose motions necessitate care, may be removed.

Why these two ligatures are made.

The double ligature has two uses, viz.: to prevent the depletion of the placenta of blood and its consequent shrinkage in size, a circumstance that renders its expulsion by the uterus less easy; and, secondly, since a second

fœtus, if existing, may receive its nourishment from the same placenta, to remove any possible danger to its life by draining it of blood.

At this stage to whom the first care must be given.

After separation of the child from the mother in the manner described, arises the question, to which of the two lives under her care shall the midwife first give her attention.

She must not err in her decision because of the belief that the mother's is of more importance than the child's life. This is true where there is certainty of death for one or the other, but under the present conditions the young life is as valuable as the old, and needs equally sedulous care. Hence the right answer to this question is, *attention must be first given to the one who needs it most.*

Here let it be remarked once for all, that a midwife, throughout her entire life of professional practice, must measure the rendering of her services by the degree not of presumptive worth, but of immediate necessity.

For instance, if the child comes into the world weak or apparently dead, and there is fear for its life, while the mother is doing well, the midwife must first attend to the child.

Meanwhile, she must not concern herself about the after-birth, nor, on the other hand, allow the child to draw her attention entirely from the mother.

If the child seems strong and cries lustily, while its mother is weak and suffering from hemorrhage, the latter must occupy the midwife's earlier attention.

If both are in danger, the attention must be divided as well as possible between them.

If neither is in danger, the midwife attends first to

the mother, because she needs it the more, since accidents sometimes occur during the expulsion of the after-birth; and on the other hand, whether the child remain for some time wrapped in warm clothes or be immediately dressed is a matter of indifference.

Neither patient being in danger, the midwife first sees that the mouth and nose of the child are free, then gives it into the care of an assistant, who receives it in a blanket and lays it on its right side in a crib, until the mother is attended to.

The midwife now directs her observation to the expulsion of the after-birth.

If this is progressing, she waits until the after-birth comes away before she turns to the child; if not, she bathes and dresses the child, at the same time observing the condition of the mother.

What condition of the mother makes it necessary to assist nature.

In *removal of the after-birth* as much is left to nature to perform as possible.

The nearer the after-birth approaches the vulva, the less painful and dangerous to the mother will be its removal, and the easier of accomplishment to the midwife.

But since the after-birth is seldom entirely expelled, but usually remains in the vagina for hours before it passes the vulva, and occasions the mother uneasiness, the aid of the midwife is required for its immediate removal.

The midwife is required to remove the after-birth *only from the vagina*, into which it has been driven by the uterine contractions, and must make no attempt towards removal until she is convinced that it is *thoroughly separated*, and *expelled from the uterine cavity* into the

vagina. Until this take place, the mother should lie quietly upon the bed, and the midwife patiently wait.

Harm done by traction upon the cord.

Any traction upon the cord may do twofold harm: the cord may break, in which case the guide to the placenta will be lost, and hemorrhage may take place; or if the cord do not break, the placenta may be torn, and thus hemorrhage caused, or the uterus may be inverted.

Time necessary for the natural separation, and the signs.

The natural *separation* of the *placenta* requires from a few minutes to a half-hour for accomplishment. Whether it has taken place or not may be decided with some degree of probability from the following signs:

1. When repeated and distinct after-pains with some hemorrhage are established.

2. When the uterus may be felt above the symphysis like a hard ball of the size of two fists.

What the midwife should do if these signs exist.

So soon as these signs exist the midwife must make an internal examination, and in this way: with the hand of the side farthest from the patient she grasps the cord; with the first and second fingers of the other hand she enters the vagina, following the direction of the cord, and gently presses them between the placenta and vaginal wall until the mouth of the uterus is reached.

If now she finds that the greater portion of the placenta is beyond the uterine opening, especially that portion from which the cord springs, she may proceed to deliver the after-birth in the following way: the midwife grasps the cord more firmly, by winding it about her fingers, just in front of the vulva, and straightens it with

gentle traction. With the two fingers already used in examination she follows the course of the cord until the anterior border of the placenta is reached, then presses them between placenta and vaginal wall toward and beneath the anterior lip of the uterine mouth, and while gently drawing upon the cord presses the placenta downwards.

This combined action causes the after-birth to glide forwards and downwards.

At its appearance between the labia, it must be seized with both hands, raised slowly and gently upwards and forwards, until the membranes have likewise been extracted from the vagina; or the after-birth being seized by both hands, is turned round and round so that the delicate membranes which follow may become twisted before the hands are raised, as before described.

This twisting of the membranes tends to remove the danger that portions may be left behind within the uterus or vagina.

If the preceding operation is not successful, the midwife desists from further effort to extract the after-birth, unless there is danger to life from violent hemorrhage, and must wait until the uterine contraction has completely broken the connection between uterus and placenta.

It must not be forgotten, also, that the greater part of the placenta may have descended into the vagina or be protruding from the mouth of the uterus, and yet some small part be still connected with the uterine wall.

While this is taking place, and indeed throughout the entire third stage, the mother should lie very quietly, must not be allowed to talk or cough or blow the nose, or exert herself in any way, because severe and even deadly hemorrhage may be the result.

If no progress is made, further assistance may be given

If, notwithstanding repeated pains, the after-birth makes no progress, and the fingers are unable to reach the insertion of the cord into the placenta, the midwife is allowed to assist nature in the following way:

Placing herself beside the patient with her back toward the face of the latter, she places the palms of both hands upon the fundus uteri, grasps it, and, *during each pain*, presses downwards and forwards. This she continues to do during the pains, but not between them, until the after-birth appears at the vulva, and she feels the uterus becoming perceptibly smaller beneath her hands.

If all these efforts at assistance fail, and the hemorrhage keeps up, the nurse is justified in introducing her hand and detaching the adhering portion of the placenta, but she should in all cases use every endeavor to summon a physician as soon as possible. The after-birth is to be put aside for the physician's inspection.

After this two things must be observed.

After the expulsion or removal of the after-birth there are two things to observe, which ought never to be forgotten during any labor:

1. *External examination of the condition of the uterus* in order to learn whether the uterus feels like a *hard ball* beneath the abdominal wall, about the size of two fists, and reaching but just above the symphysis pubis.

2. *Careful examination of the after-birth* in order to learn whether it be entire, or whether a portion may have been left within the uterus or vagina.

The after-birth is best examined when placed in an ordinary white washing-bowl, with its smooth surface

beneath; the edges of the torn membrane can then be gently raised and stretched, so as to show the rough placental surface.

If any portion of the membranes be wanting, the loss will be readily discovered; any loss of placental tissue will destroy the usually regular oval contour of an entire placenta.

Why these examinations are important.

Both examinations are of very great importance, because they will prove to the midwife on the one hand that the third stage is normally completed; on the other hand that the uterus has not sufficiently contracted, or has again enlarged, or that a portion of the placenta or membranes is wanting, thus foretelling possible danger from hemorrhage, and giving the midwife time to take the necessary precautions.

What is now done.

Finally, with a soft, clean linen cloth, the midwife *bathes* the region of the vulva with warm water; or should the patient be strong enough, a better way is to place her gently upon a bedpan and pour warm water over the parts from a pitcher held in the right hand, while the left separates the labia. At the time of this washing the nurse examines whether, notwithstanding all her care, some laceration may not have taken place; if so, her patient must be laid upon her side, both that a better examination may be made, and that the physician in attendance may proceed to operate upon it, if he should so desire.

What the midwife can do to check hemorrhage.

Even after normal completion of labor, hemorrhage sometimes takes place so violent in character as to en-

danger, if not the life, at least the rapid convalescence of the patient.

The first duty of a midwife under such circumstances is to send for the attending physician; her next, to use the following simple means, which have a tendency to check uterine hemorrhage:

The pelvis of her patient should be raised above the level of the rest of the body, upon a hard pillow or folded double blanket. Strict quiet should be enjoined.

The midwife should now place the palm of the hand upon the fundus uteri, and while firmly pressing downwards and forwards, move it slowly in a circle.

This acts in two ways, namely, by compressing the uterus and causing the expulsion of its contents, and by irritating the uterine muscle to renewed and greater contraction.

The midwife should proceed in this manner for a few minutes, notwithstanding the pain attending it of which her patient complains, when in favorable cases she will perceive that the uterus has diminished in size.

After this time the hand should be allowed to rest for an hour upon the fundus, for two reasons: first, to recognize immediately a re-enlargement of the uterus; and, second, to keep up a slight irritation of the uterine muscular tissue.

If, however, the midwife is unable to check profuse hemorrhage in this manner, she may apply cloths saturated with very cold water to the abdomen, and give a teaspoonful of the fluid extract of ergot every hour until the arrival of the physician.

A towel may be wet, and with the folded end quick, smart blows be given the abdomen a few times, or a plate made ice-cold may be laid over the abdomen. If it seems necessary the nurse may introduce a large piece of ice,

half the size of the fist, into the vagina, for sometimes the flow is from the lacerated neck of the uterus.

To revive a seemingly still-born child.

If the child on its birth does not breathe, and *there is no pulsation in the cord*, it may be at once separated from the mother, the cord being tied and cut. Should the child's face be livid, a few drops of blood may be allowed to escape before the end of the cord attached to the child is tied.

Should the child not breathe at its birth, while at the same time *there is pulsation in the cord*, it must not be separated from its mother. In either of these cases respiration must be produced *at once*.

Artificial respiration.

Pass the finger, covered with a thin cloth, to the back of the tongue and free the mouth from any mucus; lay the child on its right side and suddenly and forcibly blow from the mouth on the face and chest; slap the buttocks and the back between the shoulders smartly with the end of a towel dipped in cold water; tickle the back of the throat with a feather.

If not successful, put the child quickly on its back with the head and chin thrown back a little; hold the nostrils and slightly press upon the pit of the stomach to prevent the air from entering that organ; draw the tongue forward, and then, having filled and emptied your lungs once or twice fully, take a long breath; have the child's mouth open, and cover it with your own mouth, and blow the air from your lungs into the child's lungs, distending the chest; then press the chest to expel the air, and repeat the motions until breathing is established. Another way

which is often successful is, the child being placed on its back and the tongue drawn forward, to raise both the arms over the head, and bring them down again, doubling the elbows over the chest and pressing them on it; repeating the motion eighteen times a minute.

Instruments.

When in any case these are called for, they are to be dipped in hot water, dried, oiled on the *outside*, and handed to the physician.

The use of antiseptics in lying-in cases.

A perfectly healthy woman, surrounded by pure air and having at hand all that is needed, should in all cases pass the lying-in state as a normal act, and usually will do so unless she is poisoned by infection brought from some other patient. Even those with indifferent health and surroundings will pass it, in the majority of cases, without serious trouble. But all women delivered in hospitals, and many in their own homes, especially in large cities, during certain months of the year, are in danger of contracting puerperal fever, and many lives are lost, even among well-to-do people, from this preventible cause.

After the birth of a child the whole internal surface of the uterus is a raw wound, protected to a certain extent from the atmosphere, but exquisitely sensitive to disease, for instance, to puerperal fever. The poison may be conveyed by the air, or very readily by the hands, hair, and clothes of nurses and practitioners. It may be rendered inert by the free use of carbolic acid.

Where antiseptic treatment in lying-in cases is adopted, the following articles are needed: a solution of carbolic acid, one ounce of acid to twenty ounces of water, to be used in a double-bulb atomizer capable of making a con-

tinuous spray, a Davidson's syringe, several yards of carbolized muslin, two sets of blankets, enough sheets to allow a complete change once a day for a week, and an ample supply of soft napkins and sheets for folding.

Two or three days before labor, the patient's clothes, the bedding, the carpet and furniture, should be thoroughly sprayed. Just before, and immediately after labor, and during labor, if it is prolonged, the spray should be freely used about the bed and under the clothing. After the placenta is delivered, a napkin, thoroughly sprayed, should be placed over the vulva, and over this several layers of carbolized gauze. These should be kept carefully and closely tucked in, and changed frequently, about once in two hours, or as often as the discharge makes it necessary. The spray should be freely used under the bedclothing just before and after changing the napkin, and the clean draw sheets and bed linen should be sprayed before using.

About twelve hours after labor a vaginal injection, consisting of two tablespoons of a mixture of equal parts of pure carbolic acid and glycerine, thoroughly stirred into a quart of warm water, should be carefully given. The long nozzle should be used, and care should be taken that the end is in the cul-de-sac behind the neck of the uterus, for there is danger of its passing into the cervix, forcing the discharge into the peritoneum, and causing peritonitis. This injection should be repeated night and morning as long as the discharge continues.

If the above process is faithfully followed, the patient will escape not only the danger of puerperal fever, but all inflammatory trouble, including the so-called milk fever. There should be none of the usual foul odor of the lying-in room. If there is, it will show that the antiseptic treatment has been imperfectly carried out.

CHAPTER IV.

THE COURSE OF THE NATURAL PUERPERAL STATE.

THE puerperal state extends over the six weeks immediately following the completion of labor, during which the mother is called a lying-in woman, or *puerpera*, and the child may be designated as the puerperal child. The nurse is obliged to care for both, but will be unable to do so properly unless she fully understands the phenomena which take place in them during this time.

This chapter is devoted to a consideration of these phenomena, and the duties of the nurse during the puerperal state.

The processes of the puerperal state.

The processes which constitute the puerperal state are two in number:

1. The uterus, vagina, and external genitals, which have undergone a marked change during pregnancy, return to their former size and condition.

2. A new source of nourishment for the child, namely, the production of milk in the breast, is established.

If both these processes take place without harm to the mother or child, the puerperal state is said to be regular or natural.

INVOLUTION OF THE GENERATIVE ORGANS.

Of what involution consists.

Involution consists of three processes in one, viz.: contraction, diminution in bulk, and excretion.

1. *Contraction* takes place only in those organs which contain muscular tissue, and the larger the amount of such tissue, the more contraction may be expected; hence the uterus is chiefly affected by this first process.

The uterine contraction is accompanied at first by pains which are similar to and seem to be a continuation of the pains of the third stage, but are not so severe, and are called *after-pains*.

The degree of real pain accompanying the after-pains depends upon the previous size of the uterus; the larger, for instance, the uterus may have been, the greater the suffering; and also upon the number of previous labors. Hence primiparæ, as a rule, suffer less than multiparæ, in whom the after-pains continue for several days, and become especially severe when the child is put to the breast. Also after quick labor, the pains are apt to be severe.

Up to the time of complete cessation of the after-pains the uterus may be felt through the abdominal walls as a hard round body, extending to the level of the symphysis pubis.

During the first twelve hours following labor the uterus increases a little in size, then gradually, but surely, diminishes, until at the end of nine days it is no longer perceptible through the abdominal wall.

How the bulk diminishes.

2. The *diminution in bulk* takes place gradually, both contemporaneous with and succeeding the contraction, and continues until all the generative organs have returned to their former shape, and almost to their former size.

The *cervical neck* forms again, so that usually, at the end of eight or nine days, it extends into the vagina, producing the anterior and posterior lips, but the cervix

does not return to its conical shape, with rounded and distinct external os; on the contrary, it may present an irregular surface, in which are fissures and folds; it is thicker than a virgin cervix, and its canal may be penetrated to some distance by the finger.

The fissures spoken of become cicatriced, and thus the evidence that some large body has escaped from the uterus is permanently established.

Fissure does not always exist, and when large is called lacerated cervix. Such laceration does not always heal, and should be reported to the physician if it has escaped his notice. Many cases of sub-involution, displacement, and so-called ulceration are due to laceration of the cervix overlooked at the time of labor.

The *labia*, which were so widely stretched during the second stage of labor, show small evidence of it after a few hours; they continue to contract and to diminish in bulk, but never quite attain their former size.

The *uterine ligaments* which kept pace with the growth of the uterus, accompany it still in its intrograde journey.

The *abdominal walls* also take part to some degree in this process, but the cuticle almost always remains wrinkled and covered by cicatrice-like lines.

Loss of tissue.

This diminution in bulk could not take place without actual loss of tissue.

The muscular, connective, and mucous tissues, which developed extensively in response to the demands of the parturient state, now become in part superfluous, undergo fatty degeneration, disintegration, and are either absorbed into the blood or escape by the uterine cavity and vagina.

In the latter case there is produced an *excretion*, which is the third of the processes of involution.

The excretion.

3. During the first three or four days after labor the excretion consists mostly of blood; during the next few days, of blood mingled with mucus and pus; during the next few days, of pus and oil-globules; this latter excretion, called the *lochia*, continues for a variable time, from three to six, and even nine weeks, in case the mother does not nurse her child, but its usual duration is three or four weeks.

During the first few days of the excretion it possesses an unpleasant but never a foul odor, unless it be unnatural.

Another process which goes on at this time.

At the same time with this process of degeneration a process of formation is going on.

It will be remembered that the fœtal membranes unite with the uterine lining during the parturient state, and during labor the latter is torn away, leaving the uterine surface raw and unprotected; the uterine mouth is lacerated also, so that the reformed cervix contains fissures sometimes which have not healed.

The process of formation then includes the closing of these fissures and a new lining to the uterus, both of which are finished at the time of the cessation of the lochia.

MAMMARY SECRETION.

What happens if this secretion is not promptly established.

When the uterine organs are in good condition the mammary secretion is established without apparent disturbance, if the child be put to the breast soon after labor. If, however, this is not done, or owing to some other unskilful treatment the secretion does not appear,

the breasts begin to enlarge and to grow painful, and on the second or third day a fever sets in and the patient is liable to have mammary abscess. In such a case, if the child fails to empty the breast completely, the milk should be drawn off with a breast-pump, and the pumping repeated until the breasts are soft and entirely free from hard lumps. In handling the breasts great care should be exercised, lest they be bruised and inflammation induced.

What changes take place in the milk.

The composition of the milk changes during the nursing period. During the first few days the milk is a thin yellowish turbid mixture, in scanty quantity. Although not the perfect milk of a later period, yet it is particularly adapted to the wants of the child, since it contains much nourishment, and in addition an element that acts as a laxative, and thus prepares the stomach and intestines for the reception of the more perfect secretion. Soon the milk becomes whiter, thicker, sweeter, and is composed of water, sugar, alkaline salts, casein, and oil.

The constituents of the milk vary somewhat according to the age of the child. The sugar and alkaline salts are in greater quantity in the earlier than in the later stage of the nursing period.

Milk of *good quality* is a thin bluish-white and odorless liquid. A drop placed on the finger-nail flows slowly off, and leaves a white residue upon it. If dropped into a glass of water, it mixes at first slowly, but finally gives the water a uniform pale-white color.

At the end of from nine to twelve months the child possesses several teeth, and at the same time there is a natural demand for stronger food, hence the child should be weaned.

CHAPTER V.

THE DUTIES OF A NURSE DURING THE PUERPERAL STATE

SINCE the puerpera has been greatly exhausted by the labor, and her body is now obliged to undergo numerous changes, it will be readily seen how much more liable now than at any other time it is to disease. Experience teaches also that every, even the most insignificant, digression from the normal condition may be followed by the most dangerous consequences. Hence careful nursing is most important, and the duties of the nurse concentrate themselves in the care to be bestowed upon mother and child.

THE CARE OF THE MOTHER.

We now resume the history of the mother at the moment following the end of the third stage.

What must take place before the mother is allowed to move.

It has already been said that while the placenta is being expelled the mother must lie quietly with the legs drawn together, making no motion and exerting herself in no way. This *attitude* of *extreme quiet* should now be continued until the uterus is fully contracted into a *round, hard body*, and the danger of hemorrhage is wellnigh passed, then the sheet and rubber-cloth, extra pillows, and pulling-straps may be quietly removed, and beneath the pelvis of the mother a folded bed-quilt spread to prevent the uterine discharge from soiling the bed.

If it is necessary to lift the mother, how it should be done.

If in the hurry preceding labor the bed has not been prepared in the manner described, the mother may be removed to another previously thoroughly warmed.

The nurse needs an assistant in the performance of this act, who carries the upper part of the body by placing the hands under the arms, while the former carries the lower part by encircling the knees with her arms; together they must lift the patient gently, slowly, and moving together over the floor, in the same gentle way, deposit their fragile burden.

The patient must make no effort.

Under no circumstances may the patient be allowed to exert herself, much less walk from one bed to the other, as dangerous bleeding or life-long uterine disease may be the result.

The bed must be thoroughly warmed, and a folded bed-quilt placed where the hips are to rest. *Hot water bottles to the feet are not allowable,* because they tend to congest the lower part of the body, and thus produce uterine hemorrhage.

What the first need is, and how it must be promoted.

Rest of body and mind is the first need of the mother.

And as far as external influences are concerned,—the situation, temperature, and light of the room, the quiet, the absence of all unnecessary persons,—the nurse must expend her energy in producing it.

Immediately after labor the puerpera feels very weak, yet rejoices in the great calm following the storm, and often sinks into gentle slumber, during which warmth

and perspiration spread uniformly over the surface of her body.

Sometimes a slight chill precedes this sleep and warmth.

What may happen during this sleep.

It is best that the mother do not fall asleep until the nurse is sure that the uterus is sufficiently contracted, because hemorrhage can so easily take place during sleep without her knowledge; but the patient must not be kept too long from *sleeping*, since this is the *very best restorer*, and by no means a cause of hemorrhage, as is thought by some nurses, but only a reason for its escaping notice.

What signs the nurse must watch for.

Hence the nurse must not remit her watchfulness, but observe whether her patient's face is of good color, whether the limbs are warm and the breathing natural,—the opposites of which indicate hemorrhage.

She must from time to time examine to see whether hemorrhage has occurred; and should there be feeble pulse and pale lips and face, the head should be lowered and the hips slightly raised, although there may be no hemorrhage. See farther, page 194.

What two things the nurse must forbid.

Talking, although enjoyed by many puerperæ from their satisfaction at the successful termination of labor, should not be allowed, as headache and fever may result.

The *visits of friends*, especially during the first three weeks, must be strictly forbidden, not only from the ordinary excitement which is a result, but because friends, however careful or kind, are liable to talk upon subjects which irritate or terrify a woman in the weak condition following labor.

The rule for the duration of the puerperal state.

With regard to the *duration* of the puerperal state, the nurse should follow this rule in every case of wealth or competence, and as closely as possible in every other case:

During the first nine days following labor the mother must remain in bed; during the next nine days she need not remain in bed, but must not leave her room; during the next nine days she may walk about her house, being careful not to engage in any arduous employment.

By the end of this time, usually, the lochia have ceased, the os is closed, and the uterus has regained its normal size, so that, in pleasant weather, the mother may walk or drive in the open air and return to her ordinary duties. During the first few weeks sleep will be greatly promoted by nightly rubbing of the entire body.

Why the mother should take precautions.

The otherwise healthy mother must remain in bed nine days, because of the still enlarged generative organs and the process of involution going on within them.

Multiparæ and sickly puerperæ have every reason for prolonging rather than shortening this period.

Even the necessary defecation and micturition must take place in bed, in a vessel made for the purpose.

The uterus during this time being heavy and enlarged, must not be allowed to drag upon the ligaments, as would be the case if the puerpera were not in bed, because prolapsus, flexion, or other alteration in position or condition of uterus would arise, producing the seeds of long-continued ill health and disease.

The mother may feel strong and well, and think that no harm may be done, but this is a dangerous error; hence the nurse must be firm on this point, even with

patients of the laboring classes, since upon her shoulders would rest the blame of any secondary disease; by explaining the subject, and foretelling the possible results of disobedience, the nurse will seldom fail to have her way in the matter with restless or headstrong patients.

How the bed, bedding, and room must be kept.

The most important need of the mother is *cleanliness*, not only of her person and clothing, but also of the bed, bedclothes, of everything with which she comes in contact, and of the room itself.

All dishes and vessels as soon as used must be removed; all soiled linen, towels, sponges, and clothes must be taken away as quickly as possible; none but the most scrupulously clean articles of whatever sort may be taken into the room. No cooking or cooking utensils should be allowed in presence of the patient.

All blankets, quilts, and other poison catchers must be aired frequently.

How ventilation must be secured.

If disagreeable odors exist, they must be carried off by *fresh air*, and not covered up by less disagreeable but equally harmful perfumes.

The ventilation of the room is necessary but difficult to accomplish, and therefore this subject must receive much consideration from the nurse.

The object to attain is a supply of fresh air, without draught. The best means of ventilation in winter is an open fire constantly burning; if this is not attainable, an opened or partly-opened window in an adjoining room gives a fair ventilation, both in winter and in summer; if this cannot be had, a window may be opened in the

room itself, so far from the bed that the air will not descend directly upon the patient.

What the nurse must do when airing more fully.

If a powerful odor has been created in the room, which the nurse must dissipate, she may open a window wide for a few minutes, first taking the precaution to cover her patient, the head as well as the body, with an extra blanket, which she will not remove until the room is again warm.

What care must be taken as to clothing.

Although the bedclothes and apparel of the mother must be clean, yet such care must be used as will keep them clean as long as possible, because the too frequent changing of them will annoy and exhaust the patient.

When a change is desired, the fresh clothing must first be thoroughly warmed before it is used. In consequence of the previous distention of the abdomen, the puerpera will sometimes complain of an unpleasant sensation of emptiness; in such case the nurse may support the abdomen, and contract its capacity by encircling it with a folded towel, pinned so as to make uniform but gentle pressure over the entire surface. This towel or band of linen must also be changed as often as it becomes soiled.

At the end of nine days, when the mother is allowed to sit up, a properly-fashioned bandage of linen may be used in place of the towel, if the abdominal walls are still flaccid.

How the body of the mother must be kept.

The body of the mother must especially be kept in a state of scrupulous cleanliness. Not only must the face and hands and teeth be washed daily, but the entire body must be washed occasionally. The region of the vulva,

which becomes soiled by the constant lochia, requires the attention of the nurse.

Three times a day these parts must be washed either with a soft linen cloth and tepid water, or by pouring the water from a pitcher, as before directed. No sponge is ever to be used about a lying-in woman; and no exposure is at any time to take place; nothing is so dangerous as chilling the patient. At the time the vulva is bathed, the groin and surrounding parts must be made clean. When the bedclothes are turned back, an extra blanket must be thrown lightly over the exposed parts. After the lochia have disappeared, twice a day will answer for the washing. Until this discharge has ceased, careful physicians order night and morning a vaginal injection of two tablespoons of a mixture of equal parts of carbolic acid and glycerine, thoroughly stirred into a quart of warm water. The parts are to be dried always with a warm and soft towel, and a folded towel laid against the vulva, to absorb the discharge and prevent its soiling the bedclothes. This folded towel should be taken away as soon as it is found to be saturated with the discharge, and another clean towel used in its place, the soiled one being put immediately into a solution of carbolic acid and water, two ounces to one gallon of hot water, and afterwards washed in boiling water. For full directions, see page 197.

A danger for the mother.

Nothing is more dangerous to the mother during the puerperal state than *becoming chilled.*

The puerpera is liable to free perspiration because of her weakened condition, and this liability, combined with the unusual susceptibility of puerperæ to disease, necessitates the utmost care on the part of the nurse in the performance of all her duties toward the patient: in

changing the clothing, in cleansing the body, in assisting the processes of defecation and micturition, in keeping her patient properly covered with bedclothing, and in giving the proper kinds of food.

It is unwise to encourage perspiration.

It is an error to suppose that a puerpera should be made to perspire freely immediately after labor, and in order to bring this about to cover her with many blankets, give hot teas, and place warm bottles in the bed.

The too copious perspiration not only weakens the puerpera but makes her more susceptible to chill.

It is *not necessary* therefore to *cause the puerpera to perspire freely,* but rather to cover her with the number of blankets to which she was previously accustomed, and to keep the temperature of the room at 65°–70° Fahrenheit.

If perspiration is extreme, what the treatment should be.

If perspiration is, under these circumstances, copious, do not give warm drinks; avoid as much as possible fatiguing the patient, and keep a warm cloth upon the vulva.

Exercise the utmost care in changing the clothing, and be sure that the articles have all been *previously warmed.* When the puerpera first leaves her bed, and especially before her first excursion from the house, extra vigilance must be given that the clothing is sufficient to prevent injury from the exposure.

What the diet should be.

Much of the favorable progress during the puerperal state is due to the kinds of *food* and *drink.*

During the first four days the food should be of the simplest, least stimulating, and most digestible sort.

Farinaceous dishes made of milk, rice, corn-starch, and the different varieties of meal should alone be indulged in, while the drink should consist of plain water or milk and water, toast-water, and the like, of a temperature of about 45° Fahrenheit.

After this limited time the diet may be made gradually stronger. After weak broths and bread have been given for a day or two, tender portions of beef and mutton or lamb, with well-cooked potatoes and stewed fruit, may be eaten.

The drink during the first nine days should continue to be unstimulating in character, but during the latter portion of this time may be given warm if desired.

During the entire first month the diet should remain of the character of the above description, but at its termination the mother may return to her former diet, using, if she is accustomed to drink them, beer and light wines in moderate quantity, drinking weak tea and coffee, and avoiding only such articles as are sour or very hot and stimulating or indigestible.

These will answer as general rules for a full-blooded woman after normal labor. She does not require at first much food, but does require it at shorter intervals than during health.

When, however, there is exhaustion by protracted labor or by hemorrhage, or the constitution is weak, nourishing food and even stimulants may be required at once. In such cases the doctor's directions must be asked for, and followed implicitly. Fresh meat-juice, good broth, and milk may generally be used as soon as a patient has any appetite, and may be *needed* when there is no appetite.

The want of nourishing food may in some cases, by keeping the tissues relaxed and flabby, cause self-inoculation with poisonous decomposing particles and fluids; and thus induce puerperal fever.

Puerperal fever.

The symptoms of puerperal fever are a chill, or chilly sensation, high temperature, tenderness over the abdomen, pain on pressure, abnormal appearance and fetid odor of the lochia, and sometimes neuralgic pains in one or the other of the temples.

What care should be taken of the bowels.

Evacuation of the bowels usually becomes established within the first few days.

The puerpera needs none on the first, second, or third days, because of the very complete process during labor.

If after this time evacuation does not take place of itself, the nurse must give an injection. Even though the puerpera feel the desire to defecate, the injection must be given, to prevent the pressing down and effort that would accompany it and would perhaps cause hemorrhage or some displacement of the uterus.

The injection should then be repeated daily so long as the mother remains in bed.

The nurse should never give, or allow to be taken, laxative medicines or cathartic pills, because they weaken and irritate her patient, and are liable to congest the pelvic vessels, and thus cause some irregularity in the process of involution.

What the nurse must be certain of.

Passing the water is of more importance to the health of the patient than evacuation of the bowels.

Unless the water is passed naturally, the catheter must be used six hours after confinement, and whether the puerpera feel distress from its accumulation or not, afterwards, three times daily, until micturition takes place naturally.

The way of feeding the child which is usually safest for the mother.

Every healthy woman who has good breasts and sufficient milk should nurse her child.

It is intended by Nature that a mother should nurse her child; for this purpose is the development of the breasts and the secretion of milk, and any woman who, because of the confinement or loss of social pleasure it enforces, declines to do this, not only injures herself, for the regularity of the puerperal state is thereby broken, but also commits an injustice toward her child.

The injury to herself consists in a prolonged process of involution, sometimes amounting to sub-involution, in too early re-establishment of the menses, and in disorder of the function of milk-secretion, and out of these may readily spring some disease of long continuance.

On the other hand, there are cases where the mother *cannot* or *ought not* to nurse her child.

When she should not nurse the child.

For instance, if the breasts are undeveloped, the nipples imperfect, or the milk in insufficient quantity, the child can obtain no nourishment from its mother; if the mother suffer from some constitutional disease, like phthisis or syphilis, the milk will be of poor quality and the child's growth checked.

The question whether a mother shall or shall not nurse

her child cannot be decided by the nurse; the physician's advice must be taken, and upon this she must act.

How soon the child must be nursed.

The child must be put to the breast from four to six hours after the termination of labor,—that is, after the mother has had her first sleep. Nurses who keep the child from the breast for a day or even longer, feeding it meanwhile with sugar and water, chamomile-tea, or some other mild drink, do harm to mother and child, as the former is in danger of fever from suppression or caseous formation of the milk, and the latter is not supplied with the first milk, which is so valuable to a child, because of its cathartic properties.

How the child should be put to the breast.

The child should be put to the breast in the following way:

The nurse lays the child on the mother's left arm with its head toward the left shoulder if she desires it to nurse from the left breast, on the right arm if from the right breast, and after moistening the nipple with sugar-water or milk, directs it into the mouth of her child; she then lays the forefinger of this hand upon the breast above the nipple, and presses the breast away from the nose of the child, in order that it may be able to breathe.

If this is not done, the child can neither breathe nor suck, a fact which is sometimes overlooked. During the first nine days the mother should not sit up while giving her child the breast.

When children during nursing, or after it, are laid on the left side, the liver, which is disproportionately large, presses on the stomach, and in some cases causes vomiting.

Children will sometimes refuse to nurse from the right breast because they are compelled to lie on the left side; if in such a case the child's feet are put under the mother's right arm, so bringing the child's weight on its right side, it will often nurse readily.

The child must have as much as it wants.

As often as the child is put to the breast it must be allowed to satisfy its hunger, and if one breast does not contain sufficient milk for the purpose, the other must also be given the child. Regularity in the alternation of their use must also be observed, otherwise the child will form the habit of using one alone to the detriment of the other.

If they become so full of milk that the nipples are too large for the child's mouth, they must be partly emptied with a breast-pump; if this surcharge continues for some time, the mother must diminish the quantity by drinking less.

The child must be nursed at definite times.

In nursing, definite times must be chosen, and the child accustomed to them, in order that the nightly rest of the mother may be as little disturbed as possible.

Until the end of the lying-in month the child requires frequent feeding night and day. It has not strength to suckle long at one time, and stops before nourishment enough has been taken. It should be put to the breast once in two hours. After a few weeks,—not more than four,—if the child is ordinarily healthy, night-nursing may and should be omitted one time, so that the mother may secure at least four hours of unbroken sleep; if it is five or six, so much the better, and by nursing the child late at night and then early in the morning, leaving the interval from twelve to five if possible for undisturbed sleep.

much good will be secured for the mother and hardly less for the child. The mother's strength and power to furnish healthy food depend upon her sleep, and she will be far better able to nourish her child properly if she secures it. The practice of allowing a child to fall asleep with the nipple in its mouth, and to lie on the breast suckling all through the night when it pleases, is full of mischief for mother and baby.

How the mother must protect herself and her child.

A nursing woman must *protect her breasts from cold* by covering them with a soft folded linen cloth, which must be removed, if wet by the escaping milk, and a similar dry cloth used in its place.

After nursing, the milk, if in good supply, is liable to run quite freely, and in such a case a milk-glass may be used for its reception.

The breasts must be well supported and not unnecessarily uncovered during nursing.

After nursing, the nipples must be cleansed with pure lukewarm water, and the mouth of the child washed out with a delicate napkin dipped in tepid water and wrapped upon a finger; this is the best way of preventing sore mouth and nipples. The mother should never be allowed to nurse her child after great nervous shock, because its influence would be transferred to the child through the milk; but the existing milk must first be drawn off and the next supply given the child.

What care to take if the mother cannot nurse the child.

If the mother is *not able* or *allowed* to *nurse*, care must be taken to control the milk-secretion and to cause its cessation.

The simplest rule to follow is this: the breasts should

be covered with cotton, wool, or lint, and well supported by a soft compress beneath; the diet of the first few days must be continued in rather scanty quantity until they have returned to their original size. It may be necessary to draw the milk occasionally at first. As little liquid food as possible should be taken.

Swollen breasts.

If the breasts are painful, and the milk does not come, use hot fomentations from fifteen to thirty minutes at a time, and rub evenly and with care from every direction towards the nipples.

THE CARE OF THE INFANT.

The first service to the child.

The first service of the nurse toward the new-born child is to give it a *bath* in warm water of a temperature of 95°–96° Fahrenheit. If a thermometer be not at hand, the temperature may be approximated by placing the bared elbow in the water; if to the elbow the water seems neither too hot nor too cold, it may be considered to be of the proper temperature.

How the child is made clean.

The child is to be rubbed first with olive oil or lard, applied all over the surface of the body, and then rubbed off with a soft flannel. After this the nurse, having re-examined the portion of the umbilical cord still attached to the child, and placed a second ligature around it, must wrap the child completely, with the exception of its face, in a warmed cloth, and raising it by placing the left hand under the head, and the right under the buttocks, lower it gently into the water.

Now supporting the head with the left hand, she allows

the buttocks to rest upon the bottom of the tub, and with the right thus left unemployed she gently rubs the cloth over the surface of the child until all foreign matter is removed; or for this purpose she may use a clean and soft sponge, having a separate sponge for the eyes.

The duration of the bath should be about five minutes, at the end of this time the child must be taken out in the same manner in which it was put into the water, but without the now saturated and soiled cloth; wrapped in several thicknesses of previously warmed cloth, laid upon a mattress or on the lap, and dried by pressure without rubbing, the towels being soft and warm.

The bath must be given, and the child afterwards dried and dressed, in a part of the room in which there is no draught of air.

If the child's flesh is sore it is a sign that the water was too hot, or that he was not properly dried, or not made and kept clean. Use plenty of powder *after the baby is made dry;* never use it where the skin is chafed or broken; apply to the place cold cream on a soft linen.

What the nurse should ascertain and do.

During the first bath the nurse must *thoroughly examine the child* to see whether all its members and openings, especially the anus and mouth of the urethra, are normal.

If anything abnormal is discovered, she should not tell the mother, who is too weak to bear the shock, but rather the father or near relatives, and immediately send for the physician in attendance.

What should be done if the child is weak.

Now and then the nurse will have to do with a newborn child which is normal and breathes and cries naturally, yet is so weak that fear is entertained for its life.

Premature labor and many other causes will produce such a child.

In such a case, after the bath, the child should be sponged with warm wine and water, should be given a little chamomile-tea or other very weak stimulant, and the physician must be sent for, if other remedies seem necessary.

What the second service is, and its purpose.

The second service to be discharged is dressing the child.

The essential purpose of the dress of a new-born child is to *promote uniform warmth without confining closely any part.*

Hence the garments may be fashioned in many different ways provided they answer this purpose.

The necessary garments are a wide and soft flannel band, a linen shirt, opening behind, a light flannel petticoat, long enough to extend beyond the feet, an overdress, high in the neck and with long sleeves; these garments should open behind, and should be slipped inside each other so as to make one putting on. All the clothes should be put on at the feet, and the baby twisted and turned as little as possible.

How the clothes must be fastened.

The child must be clothed in the necessary garments in the order named, and in fastening them the nurse is to use *no pins*, but only the strings, which should in every case be attached to them.

The garments must be made and fastened so that they will not in the least hamper the movements of the child.

When lying in bed the child needs no other attire, but

if it be carried about or from one room to another, a small blanket will be required.

The care given to the cord.

Before the child is dressed as described, however, the nurse must take special pains to prepare the remnant of the umbilical cord so that it will escape injury.

A circular piece of soft linen, three inches in diameter, with a hole through its centre about half an inch in diameter, may be dipped in oil and then laid at hand ready for use.

The nurse, now the third time, examines the cord to see if bleeding has taken place, and if so, a third ligature must be tied around it. Bleeding sometimes occurs because the cord, large at first, shrinks after an hour or so, and the linen string loosens and comes off; it must be constantly watched, and if there is difficulty in tying it, a small compress must be held firmly against the navel, and the doctor sent for. If all is right, the circular piece of linen is now slipped over the cord and spread out upon the abdomen, the cord laid upon the linen on the left side of the median line,—because if on the right it would press on the liver,—and a delicate flannel band, three inches wide and provided with tapes for fastening, passed around the body and drawn only so tight as to keep the cord in place. This operation must be repeated daily until the cord *falls off*.

Traction not allowable upon the cord.

No traction may be made upon it, but it must be allowed to take its own time to shrivel and come away, which will occur about the seventh or eighth day.

As soon as it occurs a bit of linen, folded into a compress about a quarter of an inch thick and dipped in sweet

oil, must be placed over the umbilicus and kept in place by the band.

As soon as the umbilicus is of the same color as the surrounding skin the linen is no longer necessary, and the band may alone be used.

At the first dressing of the child, and for a while after, the band must be rather loose. Gases are sometimes generated in the body, and the band becomes too tight.

Ulceration of the cord.

It sometimes happens that between the fifth and fifteenth day there may be considerable soreness about the navel, and a small growth may be noticed about as large as a pea; the nurse must carefully report any such thing. A little powdered alum or blue-stone will probably be ordered applied.

Swelling of the breasts.

If a child's breasts are swollen a day or two after its birth, a nurse must never squeeze or pinch them; they are to be rubbed once or twice a day with warm olive oil, or camphorated oil, very gently, and a linen wet with the oil may be laid over them. The doctor will order further care if necessary.

Retention of urine.

Unless the child passes water within twenty-four hours after its birth, squeeze out a flannel in hot water and lay it over the kidneys, and inform the doctor.

Constipation.

If the baby's bowels do not move daily, a small Castile soap suppository should be used. The dark-green passages from the bowels last for the first three or four days

Inflammation of the eyes.

This trouble sometimes begins three or four days after birth. A baby's eyes should be carefully bathed every day without rubbing, but by letting a small stream of warm water trickle over them towards the nose. If in spite of care the nurse finds that the edges of the eyelids are red, and that when the baby wakes they stick together, and a little white matter is seen inside the lower lid, the doctor must be at once informed: he will give his orders; but the child's eyesight will depend upon the faithfulness with which the nurse keeps the eyes free from the discharge and perfectly clean.

Red gum.

This appears not later generally than the sixth week, and is seen as vivid red pimples on the cheeks, arms, and back of the hands; red patches also accompany the pimples, and the general appearance is somewhat like measles. Acidity of the stomach and disorder of the bowels are connected with it. Give the child a daily warm bath,—with great care not to expose it to cold at the time or after it,—regulate the bowels, and if the trouble increases, send for the doctor.

The best bed for a child.

The further care of the nurse is to see that the newborn child has a convenient bed.

It is always better to use cribs instead of cradles, because a child once accustomed to being rocked, will not rest unless the motion be more or less continuous; this makes the care of the child too onerous.

The child's bed should be placed near its mother's, out of all draughts, the direct heat of the fire, and light

of the sun. A bright light directly in the eyes is a source of irritation to the mother and of harm to the child.

If a stationary bed be used, the child will sleep as well in one place as another,—a fact which is of much convenience at all times, and especially in travelling.

There should be no curtains about the crib or cradle which cover it entirely.

Although some physicians consider it wise that the child should sleep by its mother during the first month, because of the animal heat which it is supposed at first to require, the practice should be discontinued as soon as possible, and the sooner the better for both. Apart from other disadvantages, there is great danger that the child may be smothered by being rolled upon. It should on no account sleep with an aged or sickly person, or be cared for by such a one.

How the child should lie for the first month.

The child should, during the first month of its life, never lie upon its back, but upon one side and the other alternately; this is to prevent the milk, which is apt to regurgitate, from filling the mouth or finding its way into the larynx and producing suffocation, since the child is too young and too weak to understand or to be able to remove it of its own accord.

Cleanliness.

Cleanliness is of even more importance to the child than to the mother.

To keep a new-born child and its surroundings clean requires the active and constant attention of the nurse, or if the mother cannot afford to hire a nurse, after the first nine days, of the mother, who may be instructed by the nurse as to the necessary duties. Cleanliness has

reference not only to the child's person and clothing, but to the bedclothes, the utensils used, and the air of the room.

The latter subject has already been sufficiently discussed.

As to the child's person, a daily bath should be given, after which the child may be allowed to kick a while upon its bed, undressed, if the room be of the proper temperature.

The diapers, as soon as soiled, either by the water or the contents of the intestines, must be taken off, the soiled cuticle bathed in lukewarm water, and fresh diapers properly adjusted. A diaper once wet must not be used again without washing.

The eyes are to be washed at each dressing, and the mouth washed out after each nursing, in tepid water. Unless this care is taken the child is liable to an attack of what is called thrush.

Thrush

appears in the form of white spots on the tip of the tongue and inner side of the lips, and so spreads to the back of the mouth and throat: the white spot is a sort of fungus, believed to be formed from decomposition of the milk remaining in the mouth, which any careful nurse would have washed out after each nursing. Having appeared, the spots are to be washed gently by means of a camel's-hair pencil, once an hour, in a solution of thirty grains of borax in one and a half ounces of tepid water, care being taken not to rub or break the patches. If the child's strength will allow it, it is considered best to do with as little milk as possible, to substitute arrow-root, or some such thing, if the doctor permits, and to avoid the use of sugar in the food.

The best food for the child.

The most suitable nourishment for a new-born child is the mother's milk, as has been stated before.

If the milk is of good quality, in sufficient quantity, and is secreted at the proper intervals, the child will thrive upon it, and need no artificial nourishment until the teeth begin to grow.

The first milk important to the child.

We know already that the first milk contains a cathartic principle, which serves to free the intestinal canal of the *meconium,* or substance composed of bile and mucus, which collects during the latter part of fœtal life.

The child must be early put to the breast in order to obtain this milk, after which the action of the child's mouth upon the nipple gradually excites the breast to fuller secretion, draws out the nipple to a convenient shape, and relieves the milk glands; all of which tend to remove the danger of inflammation and abscess.

The child must be put to the breast whether there is milk or not within the first six hours, as the act of sucking tends to promote uterine contraction.

If there is only a little milk at first, let that be given regularly; and should the child require more liquid for the kidneys to act on, give it, with the doctor's permission, a little anise-tea (made with two tablespoons of the seed in a cup of water, soaked and strained, and sweetened) or saffron-tea, a teaspoonful of either of these infusions in a cup of hot water. If there is milk enough, do not give the child any of these things. If the child is too weak to nurse, the milk should be drawn off with a breast-pump, and given to the child slowly. If the mother *continues in good health,* and the milk secretes in good

quantity, no other nourishment is required until the teeth appear, when the child should be *gradually weaned*, and other food gradually substituted.

What is extremely bad for the child.

Much emphasis must be laid upon the danger of allowing the child to suck rags, sponges, *empty* feeding-bottles, or of giving sugar-water in any manner, because thereby the digestion of the child is injured, the regularity of appetite for the breast is destroyed, the mouth is made sore, and the child grows thin and ailing.

When artificial food may be given, and what it should be.

Artificial nourishment must be permitted only when the mother's milk, although of good quality, is not secreted in sufficient quantity. In any case, the child must get all the food it needs; and so if the mother's milk is not enough for its wants, cow's milk, either with or without water, may be given in a nursing-bottle, to make up the deficiency.

During the first five months of an infant's life no other artificial nourishment than this need be given, but after this time gruels and thin soups may be substituted or given in addition.

Under what conditions the mother should not nurse her child.

Two conditions have already been stated which disenable a mother to nurse her child, viz.: lack of proper milk-secretion, and serious constitutional disease or ill health, although there may be an abundance of milk; in either of these a healthy wet-nurse should be secured from the first, or the child brought up by hand.

There are three other conditions which force the mother to abandon nursing, viz.: renewed pregnancy,

acute disease, and sometimes the recurrence of menstruation. When one or other of these conditions arises, the mother must decide whether her child shall obtain its further nourishment from a *wet-nurse* or *artificial food.*

It must be acknowledged that neither satisfies the constitutional demand of the infant as well as its mother's milk, but if we must decide the question, we select a *good wet-nurse in all cases in preference to artificial food.* The mother's health must be maintained all through the nursing period by daily sponge-baths, fresh air, good food, as quiet a mind as possible, and no over-fatigue.

Too long-continued suckling.

A woman's health is very frequently broken down by too long-continued nursing of her child. The age of the child must not be allowed to determine this question; many mothers are unequal to the drain on the system beyond a very few months, while others go on without injury for nine or ten months or longer.

Symptoms of too long suckling.

The earliest symptoms for the mother, are a dragging sensation at the back when the child is in the act of sucking, and an exhausted and sinking feeling at the pit of the stomach afterwards. Then come loss of appetite, costiveness, pain on the left side, giddiness, depression of spirits, palpitation of the heart, profuse perspiration, and weakness of the retina. These symptoms, if unchecked by promptly stopping the nursing of the child and an effort to build up the system, often result in temporary insanity.

It is easy to understand from this how criminal a thing it is toward mother and child when suckling is permitted beyond the evident ability of the woman. Physicians

are not a little to blame for this condition occurring with women who have been under their care, and in whom, had they been sufficiently observing, they might have detected very early indications which prohibited suckling.

CHAPTER VI.

THE NECESSARY QUALIFICATIONS OF A GOOD WET-NURSE.

The best substitute for the mother's milk, and the possible dangers in using it.

THE milk of another woman is more like the mother's than is the milk of any of the lower animals, and, excluding the danger to the child of disease by contagion or inoculation, is a safe and satisfactory nourishment. On account of the danger to the child of contracting disease from a wet-nurse, great care must be made in the selection of one, and a nurse should never take this undivided responsibility, but in all cases seek the advice of the family physician.

The necessary qualifications of a good wet-nurse.

1. *Middle age.*

Wet-nurses who are too young, and are themselves growing, are not able to furnish so good a milk as those who have attained their growth; on the other hand, women who are in the decline of life are equally unsuitable. An age between twenty and thirty years is the best.

2. *Near correspondence in the age of both children.*

It must be remembered that the milk changes its character during the months succeeding labor, as the child grows older, and that the milk of the first month, for

instance, is suitable only for a child a month old; the milk of the eighth month suitable only for a child eight months old; hence a midwife must not select for an infant but a few weeks old, a wet-nurse whose labor occurred several months previously.

It is seldom that a wet-nurse can be found whose child is of exactly the same age as the one for which she is employed, but the *less disparity there is between the ages the more suitable is the milk* for the child to be wet-nursed.

As a rule, eight weeks is the limit to this disparity of age.

3. *The first four or six weeks of the puerperal state must have ended.*

It is not well to select a wet-nurse whose labor is but just completed, because the milk-secretion is not so perfectly established but that a change from one diet to another, from one child to another, and from her customary social relations to those that are strange to her, may check the secretion and thus cause some inflammatory trouble.

In addition to this, after the month or six weeks have passed, the permanence of the secretion can be better judged of.

Attention to this rule may prevent the necessity of changing wet-nurses, and assure to the child a sufficient supply of good nourishment.

4. *A sound constitution and health.*

The conditions already given, which should prevent a mother from nursing her child, apply with equal force to a wet-nurse.

We must go even further than this. Many slight affections are not considered of sufficient moment in a mother to prevent her from nursing, while the same

affections in a wet-nurse would oblige us to reject her; such as, for instance, carious teeth, or swollen and ulcerated gums, an unpleasant breath, or a disagreeable odor from some part of the body, such as the feet or axillæ, slight fissures in the nipples, or a fetid uterine discharge.

Not only must the health of the wet-nurse be good, but she must come of a healthy family as well, in order that we may be positive of no concealed constitutional disease.

Furthermore, the physician in attendance must be requested to make a thorough external and internal examination, in order that no hidden tumors, ulcerations, or discharges may escape notice.

5. *Phlegmatic temperament and gentle disposition.*

The nervous influence of a nursing woman upon her child is not sufficiently taken into account.

If a mother possess an irritable or excitable nervous organization, it is considered a sufficient reason for providing her child with a wet-nurse. How much less, then, should a wet-nurse of similar temperament be employed! In addition to the harmful influence of such a woman upon the child, is the further consideration that she will be unlikely to obey the orders of the midwife and mother, and will be a disagreeable member of the household.

In short, a wet-nurse should be, in temperament, as like a healthy cow as possible, with little or no thought beyond her sleep, her food, and the satisfaction of nursing.

6. *No menstruation and no pregnancy.*

Both of these conditions diminish the quality if not the quantity of breast milk, which is sufficient reason for rejecting the wet-nurse who suffers from either of them.

If, however, in a wet-nurse who has been employed

for some weeks, the menstruation makes its appearance, the patient, or other responsible person, must ask advice of the physician as to the question whether or not she must be exchanged for another.

7. *Healthy, full, and medium-sized breasts.*

The skin upon the breasts must be clear, free from every kind of eruption, not disfigured by warts or cicatrices; no nodules should be found within the breasts; the nipples must be free from fissures, and of medium length and size; the milk in the breasts must spurt out on pressure and be of good quality.

8. *A healthy, well-nourished child.*

The best test of the fitness of a wet-nurse for the duty to be assigned her is the examination of her child. A healthy, well-nourished child is the best possible recommendation, provided, as we have before said, the age of the two infants correspond; a thin, sickly child with a skin eruption outweighs all favorable qualifications.

The death of the child from disease is a strong argument against its mother, and a physician alone can decide whether she shall still be employed as wet-nurse; but if death occur through accident or very difficult labor, the same objection does not hold.

In all cases where the *child still lives, it must be thoroughly examined,* and furthermore, it must be certain that no other has been substituted for the real child.

9. *Healthful residence.*

As a rule, wet-nurses from the country or healthful parts of town or country, should be chosen in preference to those living in large cities.

Care must be taken of the wet-nurse.

The nurse must not only understand, but also instruct her patient in the *care* of the *wet-nurse.*

The nearer her mode of life in her new abode resembles that of her own, the greater likelihood that her milk will remain of good quality and quantity.

Hence the kinds of food and drink to which she has been accustomed must be as far as possible provided for her, except only such as are really harmful to the child; and in exercise she must be allowed the same liberty as in her own home.

Another substitute for the child's natural food.

Bringing up by hand or giving artificial nourishment requires patience, foresight, cleanliness, and care, and is a task that sometimes, with the best endeavors, fails of success.

Of all kinds of artificial nourishment, the milk of the lower animals comes next to that of the highest animal, man, and the milk of one of them, the cow, is usually selected as the substitute for the infant's natural food.

Cow's milk, it is true, contains twice as much casein, as much more fat, and only two-thirds as much sugar as early-formed human milk; hence it is necessary to prepare it in some manner, in order that it may be more suitable as nourishment for a new-born child.

How cow's milk should be prepared for the child.

The following suggestions should be followed in the endeavor to make cow's milk more nearly like human milk:

1. In the beginning the milk must be largely diluted,

the degree of dilution gradually diminishing with the increasing age of the child.

In the first week, the proportion should be one part of pure milk to two parts of water, and every week the water should be lessened in quantity, until in the second month the proportion should be half milk and half water. In the third month it should be two parts of milk to one of water; in the fourth month, three parts of milk to one of water, and then the water gradually diminished until after the fifth month, when milk may be given in full strength.

The milk should not be previously skimmed, and to each glassful of the mixed milk and water a teaspoon of white sugar, or better, of sugar of milk, should be added.

What the condition of the cow's milk should be.

2. Great importance attaches to the quality of the milk.

If possible, the milk from a single young, grass-fed, well-stabled cow should be used; the milk must be perfectly fresh,—it is best when used warm from the cow,—and the vessel into which it is received must be scrupulously clean, and both milk and vessel kept in a dry, cool, uncontaminating place. Unless these suggestions are properly carried out the child will quickly suffer from wind, diarrhœa, or constipation, and will cease to thrive.

What should be done if the milk disagrees with the child.

If such accident occur, a few drops of some aromatic tincture added to the glass of milk will often suffice to restore the health; if not, the physician should be sent for at once, in order that with his more perfect knowledge and keener observation he may ferret out the cause of the trouble.

What should be used if milk from one cow cannot be had.

If the milk from a single cow is not obtainable, it is better to use some kind of *condensed milk* than the uncertain fluid which milkmen are in the habit of peddling.

Condensed milk has some advantages; the process of condensation removes all foreign substance, or at least destroys its life; the milk, although not from a single cow, is the production of a single herd at least, and is therefore more uniform in quality than ordinary milk; the sugar which must be added to ordinary milk has already been supplied during the condensing process; it keeps better than ordinary milk, is in convenient form for travelling, and is always on hand when wanted.

The right proportions of water to condensed milk.

The proportions of water and condensed milk vary according to the age of the child; in the first month, one part milk to ten of hot water; in the second month, one to nine; in the third, one to eight; in the fourth, one to seven; in the fifth, one to six; afterwards the proportion should remain one to five or six.

Of other kinds of food for infants nothing will be said, because, if the above suggestions be properly carried out, the necessity for other food will seldom occur; and if it does occur, the physician's advice and guidance should be taken in the matter.

How the milk should be heated.

3. The milk and water mixture should be of about the temperature of the body,—from 99° to 100° Fahrenheit; in raising it to this temperature, the nurse should not place it over the fire, but in a vessel of boiling water.

Another method may be adopted, viz.: the use of *almost* boiling water to mix with the milk.

The water should not be boiling, because the character of the milk is thereby somewhat altered.

What other care must be taken in feeding the child.

Equal care must be given to the *manner* in which the *infant takes the milk*, and to the *purity* of *all utensils* used.

The nurse must be equally observant of these suggestions as of the preceding, because a slight error here will produce as disastrous results to the child as impure milk, and furthermore, all the trouble of obtaining a milk of good quality will be thrown away. In a word, the child's method of taking the artificial nourishment must simulate as nearly as possible the natural nursing.

In the latter process, the child sucks and obtains a little milk, which is swallowed before it sucks again; hence the mouth is never full, nor is the milk taken rapidly, but, on the contrary, slowly and at intervals.

The nursing-bottle must have such an internal arrangement and be placed at such an angle with the child's mouth that its contents may be taken by the child in the same manner.

How often this artificial food should be given.

Artificial nourishment should not be given oftener than the child would take the breast,—that is, every two or three hours.

The quantity taken in each twenty-four hours will be regulated by the age of the child; the younger the child, the less nourishment is needed; the average quantity for a child four or five months old is about a quart; that is about the quantity secreted by the milk-glands during the same time.

What care should be given to utensils and feeding-bottles.

The utensils used for preparing and giving the nourishment must be *free from all foreign matter.*

It is well to provide several nursing-bottles, so that while one is in use the others may be thoroughly cleansed by prolonged immersion in boiling water.

Before use, also, each should be steeped for a moment in boiling water to remove all dust or vegetable germs that may have accumulated upon it.

The same suggestion holds good with regard to all other utensils used of whatever sort.

A rule that holds good for a child brought up by hand.

It has been remarked that a child at the breast requires no other food than the milk until the teeth begin to appear, that then artificial nourishment may be given, in shape of milk, weak broths, and gruels, which are increased gradually in strength and consistence the more the teeth develop; the same rule applies to infants brought up by hand.

What the nurse may do for the new-born baby artificially fed.

An infant brought up by hand needs to have the meconium artificially removed, since it obtains neither from the wet-nurse nor the cow's milk the cathartic principle of primitive breast-milk.

The nurse may safely do this upon her own responsibility, by giving to the child half a teaspoonful of aromatic syrup of rhubarb every three hours until the meconium is evacuated and the fæces becomes of a natural yellow color.

In conclusion, the nurse must be made to understand that so soon as any derangement of the child's health, however slight, occurs, she must ask for and follow implicitly the advice of the attending physician.

The monthly nurse and the family.

The advent of the monthly nurse is often the signal for quarrels among servants, and consequent discomfort for the household. A nurse has this matter in her own control; if from the first she is disposed to make concessions, and to take little inconveniences pleasantly, she will ease things for herself and others, and bring her services into demand elsewhere.

Washing.—The sudden increase of clothing to be washed is one of the grievances in the household. The nurse must avoid any extravagance in this way, either for her patients or herself, should her washing be done in the house.

The baby's soiled napkins must be thrown by the nurse into a jar or pail, covered with water, which must be emptied once into the closet and renewed, and carried to the laundry in this way.

The nurse must expect to fetch and carry for the mother and child as much as she can without leaving them too much alone.

Meals.—The mother's meals must be carried to her, and the dishes taken away again, by the nurse, who is also expected to prepare any article of diet needing special care. The nurse's own meals she will go to when one of the family can relieve her from her patient's room.

Sleep and exercise must both be taken as is most convenient to the family. The nurse's bed will probably be in the mother's room or adjoining it, and she will need

to be up and down during the night. She must train herself to sleep lightly and without snoring. Out-door exercise she will probably have a chance to take for an hour, once or more a week, after the first ten days, at any rate; but should there be no one in the family who can be trusted with the mother and child, the nurse must in such cases adapt herself to her surroundings, and take her fresh air in another room by an open window.

The nurse in general must be cheerful and kind with every one,—not too professional, not standing on her own dignity; willing to lend a helping hand when she can, even if it is not "her place" to do such and such things. No woman, however superior she may be, will ever lessen her dignity by such kindly concessions.

PART III.

FAMILY HYGIENE.

A clean house.

INTELLIGENT supervision of the work of the servants from garret to cellar is the only thing which will insure a healthy house.

Cellars must be ventilated with open windows; must be perfectly dry, flagged or cemented; must be from time to time whitewashed, the walls being first well brushed and freed from the coal-dust and ashes which are sure to collect upon them. No accumulations of rubbish must be allowed in them, and no turnips, cabbage, or other strong-smelling vegetables be left uncovered, and perhaps rotting on the cellar-floor.

Kitchens.—There should, of course, be no part of a kitchen which cannot be scrubbed, or rubbed, and whitewashed; this is generally understood; but besides this, the sink and all drain-pipes need to be flushed daily with *clean* hot water, and to have, once a month at least, strong disinfectants poured down them; see page 156. The washings from vegetables and meat, the greasy and decomposing particles which float down the pipes and line their surface, become sources of danger, and were it not that the constant fire in the kitchen keeps the ventilation there good, there would be many cases of illness caused by foul air from sinks.

Stationary tubs in which the clothing of the family and of the servants is washed often give out an offensive odor unless they are scrubbed out clean after use, and the pipes flushed with clean and occasionally with carbolized water. The clothing is filled with impurities, which being floated off by the water, settle down along the waste-pipes, and can only be made harmless by constant and cleanly care.

Stationary basins, bath-tubs, and water-closets.—What has been said about tubs is true of all these. No fixed basins should ever be near a sleeping-room.

There is no perfect system of house-drainage; and the chances of leaks and faulty traps are too many to make it safe to run any risks. Besides, were your connections with the street sewer perfect, all the excrements of the family, all the contaminated water from sinks, fixed basins, and wash-tubs, constantly leave an unclean and poisonous deposit above traps and beyond traps, thus supplying a ready source of danger. The evils can be overcome to a certain extent by the use of disinfectants, and these should be employed even where there is no bad smell. It has been frequently proved that poisonous air may escape into dwelling-houses from house-drains, and yet produce no sort of unpleasant odor.

If you are so unfortunate as to have near your sleeping room "all the modern improvements," fill up the overflow perforations in the fixed basin with plaster of Paris, renewing it from time to time. Keep the plug always in, and use disinfectants.

Diphtheria, typhoid fever, dysentery, and other evils lie in wait at the mouth of every drain, and sooner or later will find a victim unless there is constant supervision.

Servants' quarters need constant looking after to pre-

vent not only obvious dirt, but ill health and bad smells, which arise from want of ventilation and proper airing of bedding and mattresses.

Slop-pails such as are in ordinary use are extremely untidy without great care; they contract an offensive smell and do mischief. Vessels should be carried directly to the closet and emptied when possible, or an ordinary china jar with a cover be used for the purpose. Washing-soda dissolved in hot water and left standing in vessels and china jars for a few hours now and then will purify and cleanse them. All paper basins and pails absorb damp impurities, and can never be made properly clean.

Clean rooms.—After the weekly sweeping, which has distributed the dust from the carpet to all uncovered articles and places, have the walls of the room wiped down with a soft cloth fastened over a broom; dust the backs of the pictures; shake the curtains; wipe the paint with a damp cloth; lift out the registers, and wipe out the dirt which has undoubtedly been swept into the mouth of the pipes.

Never have a carpet which is worth more than sunlight. Let in the sun and air freely, opening windows here and there before breakfast, and after all meals, to let out the smells of the cooking.

Ventilate sleeping-rooms.

Never allow any one to go to bed in a room which has been occupied through the day without having the windows thrown open and the room thoroughly aired for ten minutes. If necessary, the fresh air can afterwards be made warm. Arrange that every sleeping-room in the house shall have an open window in it or near it at night. The old-fashioned tin whirligig, or a wire-gauze pane, or the window down even an inch, will answer if there is

nothing better. Should there be a ventilator in the roof, it should be open at night, and all the bedroom doors might also stand wide open.

Always take away chimney-boards and fire-screens, and see that the flue is unobstructed; the chimney acts as a ventilating shaft. If there is a scuttle-door or ventilator in the roof, see that it is opened every day. A sliding-sash with long cord, that can be managed from below, is best, and serves to ventilate the whole house.

The nursery.—Air this room thoroughly before the children are put to bed. Do not allow the nurse afterwards to sit there with a light burning, stealing the air from the helpless children. Let her sit in an adjoining room, or even in the entry. Leave the nursery door open at night; a folding screen about it is all that is necessary; and should it be inexpedient to keep a window open in the nursery, it can be open in the entry or adjoining room, and give air through the door.

A separate bed for each child.

Besides securing for the nursery good ventilation through an open chimney and open window, provide, wherever it is possible, a separate bed for each child. No one thing is so injurious to the lungs as taking into them what has just been breathed out from them,—that is, carbonic acid, organic matter, and watery vapor, with but little oxygen. The blood is dependent for its healthy condition on exposure to a sufficient amount of oxygen in the lungs, and deprived of it, cannot bring to the tissues the food they require, and the tissues of the lungs being imperfectly and poisonously fed through the impure blood, develop tubercles. It is fully admitted that breathing into the lungs again the breath just given off is one of the surest and most rapid ways of destroying life by

pulmonary consumption. It is easy to see how surely children put together in a poorly-ventilated room, occupying the same bed and breathing into each other's faces eight hours out of every twenty-four, poison the air and undermine each other's health. All these objections can be urged with still greater force against the practice of allowing a child to sleep with its nurse, when not only the breath, but the exhalations from the skin, go to make up an unhealthy condition of the atmosphere just about the child.

Bedding.—Mattresses and pillows should be regularly exposed to the air, and, if possible, to the sun daily. The offensive and injurious odor which is frequently perceived about pillows is due to imperfect preparation of the feathers; they have not been properly cleaned, and if examined, would frequently be found to be oily, and to contain particles of organic matter and small insects and worms, living and dead. Steaming, drying, and remaking is the only remedy for the bad smell.

Blankets being less frequently washed than other bedding, need to be hung frequently in the air and sun.

Bathing.

There is constantly exhaling from the surface of the skin a large amount of fluid and solid matter; the fluid escapes into the air, and the solid, for the most part, remains upon the surface of the skin, and must be removed, or else the pores are stopped.

There are upon the palm of the hand alone three thousand five hundred and twenty-eight perspiratory pores in a square inch, each of these being the opening of a little tube about a quarter of an inch long; in a square inch of skin consequently there are eight hundred and eighty-two inches of drainage. What if these drains

are obstructed? Over the whole body there are twenty-eight miles of little drain-pipes, with many thousands of openings at the surface of the skin. When this beautiful provision for throwing off impurities and keeping up healthful secretions is made useless by unclean accumulations at the mouths of all the little drains, it is obvious that the body must be kept in a debilitated and flabby condition. Bathing is the remedy for this state of things. All children should be *daily* washed.

Babies in orderly houses are bathed daily; but it is a common and injurious habit even among clean people to leave young children just beyond infancy to their own desires as to their personal cleanliness. A child of ten is not fit to wash himself unless he has been carefully trained daily up to that time in the proper way of taking his bath. To allow a boy as soon as he is "old enough to dress himself" to do as he pleases, results in his jumping out of bed, to which he has gone unwashed, and putting his day-shirt probably over the flannel he has worn at night, and completing his dressing before it occurs to him to wash even his face; and the same is true of girls. The fact is, that in almost all families it is taken for granted that the young people are clean, and so at the very time when they are growing tall and fast, and need every healthy influence, they are left to themselves in one of the most important matters affecting their health. *Daily* bathing is quite as necessary for a child of ten as for a baby, and it should be done by the child under instruction, with plenty of soap and brisk rubbing, to produce the full effect.

Dashing cold water over the throat and chest strengthens them, and makes the child less susceptible to the effect of damp and cold air. Such habits formed early will stay by a man with very happy results.

It need not be supposed that elaborate bathing arrangements are necessary. The child or man needs simply a basin of water, a rough wash-cloth,—not a sponge,—a rubber-cloth to stand on, or bit of old carpet or blanket with which to protect the floor, soap and towels. Let him then take off all his clothes and briskly rub himself from head to foot with soap and water, and then with the dry towel. The back can always be reached with a small wet towel thrown over the shoulders, and rubbed back and forth. This answers well when there is no plunge-bath at hand.

Clothing.

In a climate like ours children's clothing should always cover the chest. A large proportion of diseases of the lungs begin in the part just below the collar-bone, that being the weakest part of the chest.

A common blunder in children's clothing is in the *narrowness* across the chest. Across the shoulders, and perhaps round the waist, there will be room enough, but sufficient space for the rapidly-developing chest is seldom or never allowed. Always make the back of the waist a snug fit, to support the shoulders, and give more room across the chest than seems to you necessary. What are known as "dart seams" should be put into the waists worn by little girls as soon as they cease to be babies.

The ability to draw a full deep breath without any obstruction from tight bands, arm-holes, and straps, is essential for the lungs, that the changes may take place in the blood which fit it for nutrition of the body. Tight and heavy clothing, pinching the ribs and dragging upon the hips, crowds and presses upon all the organs,—heart, lungs, liver, and stomach,—and impedes every function of the body. Cover the body from head to foot with sufficiently warm clothing, the weight of which

is taken upon the shoulders, and which does not compress any part.

High-heeled shoes and boots.—The slight pitching forward of the body, which is always unavoidable when high heels are worn, brings the whole frame a little out of line, and destroys the mechanical arrangement by which we are able to stand up straight. The weight of the body is thrown directly on the muscles, those of the back coming in for an extra share of the abuse. Fatigue after short walks and constant pain in the back are often chargeable to high-heeled boots and slippers.

Food.

Children require food which is good and agreeable to them, but they can be taught to like that which is nourishing and suitable if they begin young enough.

Children are up early; are active during every moment of freedom, and probably walk much farther than their elders daily; they are growing; and for all these reasons they require nourishing food at shorter intervals than do their elders. When the family breakfast is late and the children are expected to wait for it, they should always have a glass of milk as soon as they are dressed. Many a child runs about an hour or two every morning without food, and comes to a late breakfast too tired to eat, or so hungry that more food than can be assimilated is taken. Give a child a hearty *breakfast* always, with eggs or meat or fish, and some farinaceous article, and as much bread and butter and milk as he will take.

Dinner comes after a long morning of constant activity, or of more wearing fatigue in sitting still in an unventilated school-room. To select this time for giving a child what is called a "good lunch"—that is, chipped beef and crackers, or hash, or cake—is a mischievous mistake.

Let the *chief* meal of the day be not later than two P.M., with plenty of *juicy* meat and well-cooked vegetables; it refreshes after the morning fatigue or employment, and gives new energy for the work of the afternoon.

Supper may with propriety be simply as much bread and milk and hominy, etc., and stewed fruit as it is safe for the child to take; he will sleep better for not having a late and heavy meal; but it is evident in this case that what has been said about early morning food and the need for a nourishing breakfast is reasonable, when one reflects that from the hearty noon meal round to the late breakfast hour sixteen to eighteen hours will have been spent in which the child has had no *animal* food.

Rare and juicy meat, well-cooked vegetables, bread and butter, most of the farinaceous preparations, fruit, and simple puddings are the only kinds of food a child should have; and milk the only drink. Tea and coffee, all fried food, and candy and pastry, are utterly unfit for children.

Oatmeal and cracked wheat are considered by some physicians too coarse to be easily digested by young children.

Exercise and study.

Drive young people out of the house for several hours at least, daily. If their clothing is not too fine, they will give themselves up to fun like other young animals. As they grow older some object for a walk should be furnished them every day, in an errand to do, a message to take, etc. When it is a possible thing, the whole family should form a habit of sitting out-of-doors on bright and dry days, properly protected with wraps, and the feet raised from the ground. There are many little back gardens even in crowded cities that might be utilized for the health of the family with a little ingenuity.

Studying.—No girl or boy under twelve to fifteen years

of age should be allowed to bring the school-books home to study. As, unfortunately, the requirements of most schools conflict with this obviously proper rule, parents must see to it that a child is not overtasked in this way. The number of studies may be reduced by request, and the home hours over books regulated, and no studying after school be permitted until there has been an interval of an hour or two or more in the open air at play.

Stooping over books by gas-light all the evening is muddling to the brains, an injury to the eyes, and mischievous to the general health.

Drainage and drinking-water.

Whenever dwellings are within one hundred feet of each other, even on a level surface, there is danger that one may pollute the other's well through some privy, sink, cesspool, or stable. With a peopled hill-side there is inevitable pollution from leaking cesspools or drains farther up the slope. If, then, it is necessary to dig a cesspool, put it as far as possible from your own or your neighbor's well or cistern, and make it as *tight* as possible. Deliberately to construct it so that by leakage through the soil it may empty itself—saturating the ground and mixing its filth with water-courses which may supply a neighbor's well—is a barbarism. *Disinfect your cesspools*, drains, swill-pails, refuse-cans, etc., as directed, page 156.

Examine from time to time your connections with any street-sewer and the different openings from your house-drain into the rooms, and be particular to secure the best trap for each basin or sink or tub.* See that there

* It is a wise provision to have a pipe carried up outside the walls of the house from the main drain of the house, or the cesspool, several feet above the roof and far beyond any roof-windows, to help in carrying off into the upper air the poisonous gases.

is no damp spot about the floor or ceiling near any such place, and be sure that your cellar is dry. It is not uncommon to find that the house-drain will traverse the cellar-floor to make connection with the street-sewer outside, and leakage from the drain, either from faulty pipes or the settling of the ground, may slowly saturate your cellar-floor in some dark and unobserved place, and endanger the lives of the household.

If the house stands on damp or loose soil, or is a new house, or one that has not been "overhauled" recently, it may very likely happen that the sinking of the ground, or natural settling of the walls, will drag the pipes and drains apart at their joints; this would leave within partition-walls or under cellar-floors great gaps for the leakage of foul fluids and gases. Cold-air boxes, intended to supply outside fresh air to the air-chambers of furnaces, are liable to be thrown out of place, and so become sources of danger in the same way; and should there be near their opening any unclean thing, such, for instance, as a swill-pail, the air which passes through them will be contaminated, and then distributed impartially to all the rooms of the house.

Drinking-water.—Whenever you are obliged to have a cesspool, and there is a city supply of water, have this laid on to your house, and abandon your wells and cisterns. Should there be no such supply, procure the best large filter that you can, and pour all the drinking-water through it. Filtered rain-water is safer than the water of any well.

Cool, sparkling, pleasant-tasting water may be drawn from wells near privies and cesspools, the contents of which, slowly saturating the soil by leakage, are necessarily mixed with the drinking-water in the neighboring well. Outbreaks of fatal disease have been directly

traced to the use of such pleasant-tasting water; and scores of people a few years ago, in England, died from drinking milk mixed with such water by dishonest milkmen.

Furnaces.

Although in this climate furnaces seem a necessity, they are always a ready means of slowly undermining the health of the family by coal-gas and overheating. There is hardly any furnace made which may not, through careless turning of dampers when coal is freshly thrown on, give off into the rooms a poisonous coal-gas.

The ordinary furnace flue is also a means of conveying impure air from one room to another, and from a lower to an upper floor, when such a flue is made to do duty for several stories with its openings one above another. Sounds are easily conveyed in this way, and bad air has even more liberty.

Fixed iron plates or pipes for direct radiation of heat do not, it is true, convey air from one part of the house to another, but they are even more objectionable than the single-flue system, for the reason that no sort of air is brought in by them, and that they cook and re-cook such air as they find in the room, offering to the lungs the same sort of nourishment which would be conveyed to the body through meat warmed over and over indefinitely.

The best method of heating a house is the one which secures large quantities of moderate heat, has some arrangement for supplying moisture to the air, carries the warmth through *separate flues*, one for each room, with register in the walls, and is furnished with a large amount of fresh air from outside the house by a properly-guarded fresh-air box. Having this and a temperature never above 70°, you are not likely to be injured by your furnace.

When you are obliged to use such a heating apparatus as may be already in your house, see that the flue for smoke is tightly fitted and in good order; that cellar air is in no way introduced into your rooms; that pans of water are set to evaporate in the air-chamber of the furnace or mouths of the registers; that all the fireplaces there may be in the house are kept open, and that the windows are regularly opened to air the rooms daily.

"Malaria."

It is not necessary to look upon serious illness as simply a visitation of Providence, or having called it "malaria," to feel that you have gone to the bottom of the subject. Go to the bottom of your own, or your neighbor's swill-pail, or other foul receptacle for garbage and rubbish, examine your drains, etc., and never rest until you have satisfied yourself that your own want of intelligent oversight of sanitary arrangements inside and outside your house is not to blame for the diphtheria, dysentery, or typhoid fever. If your own premises are in order, suspect your neighbor of being to blame for the evil, and try to rouse his attention to it.

Girls at boarding-schools.

In a few of our colleges and schools for girls the health of the pupils is carefully considered in their education, but as a general thing too much is taken for granted by instructors, who naturally give their chief attention to classes and recitations.

It is needless to say that every part of a school building requires as constant and systematic care as to cleanliness, ventilation, and disinfecting as any private house. Indeed, such care is more necessary in the first case than in the second, for careless young people and servants will

constantly save themselves trouble by hastily covering up dirt, and by throwing things into water-closets and basin-drains, which stop the pipes or make unclean accumulations, through which the impure water passes very slowly; water-closets or privies are left uncovered; soiled clothing is not disposed of; windows are never opened; in short, all sorts of little lapses combine to make great disorder and an unhealthy condition of things, unless there is eternal vigilance on the part of the head of the school, not of the housekeeper simply.

The *ventilation* of *recitation-rooms* will require the attention of the instructors who in turn are in charge of classes. No class should succeed another until the windows of the room have been thrown open for five minutes and the air renewed.

Girls also as a general thing are ignorant of the laws of life, and reckless of their own health. Mothers of families hesitate to give their daughters information which their advancing womanhood will thrust upon them; and so many a delicate young girl is sent away from her home without the knowledge concerning her own physical nature, which might save her from life-long weakness. The only remedy for such an unfortunate state of things is, that the experienced women under whose instruction and control such girls are placed should take into account their ignorance, and the value to them of certain hygienic laws, and should give them rules to live by in their daily care of their bodily health. Such rules will answer for the younger classes in a boarding-school, but no young woman should be allowed to leave the school without having had, in addition to these, careful instruction in all that relates to her own physical nature and special functions. The ordinary school physiologies are of necessity written for both sexes, and are useless in this

matter. There should be in girls' schools a course of instruction specially applicable to women, and supplementary to the advanced studies in physiology.

Such a course might with great propriety also give the future heads of households careful training in hygiene and sanitary laws, and what constitutes a healthy house and neighborhood.

The effect of such instruction upon the next generation would be marked and happy. As a commencement of such a drill for schools a few suggestions are given applicable to girls of all ages, and it would be a wise thing to have something of the kind printed and hung in every bedroom in the school.

It is taken for granted that each girl will be allowed a separate bed, and that when two or more occupy the same room a folding-screen, a suitable number of basins and slop-jars and foot-tubs, and plenty of water in pitchers and cans, will be provided.

Sanitary rules.

1. On rising in the morning turn the bedclothing back over the foot of the bed; pull off the sheets and hang them by the window; put the pillows where they will have the air when you leave the room. Do this whether you are to make the bed or not.

Always leave the window down an inch or more at the top. When not using the room, open your wardrobe or closet-door wide when airing the room in the morning; push up all the windows, and open the shutters.

2. No piece of furniture is allowed against the fireplace, and no chimney-board or screen.

3. Bathe yourself *daily* from head to foot with a rough cloth and soap and water, pulling the screen about the washstand. Once a week at least you are required to take a plunge-bath.

You will not be excused from bathing except in case of illness, or at the request of a physician, and at a certain time in the month when it is proper to take precautions. Report to the lady principal (or proper officer) at such a time. You are then to be excused from walking for a few days, your lessons will be diminished if necessary, and you are to avoid either a hot or cold foot-bath, and confine yourself simply to sponging in tepid water. The feet are to be protected from damp or cold sidewalks by thick warm shoes, and the clothing is to be warm enough to prevent a chilly feeling. Should there be monthly excess or irregularity, or any indisposition at any time, it must be reported at once to the proper officer.

4. If there is a stationary basin, put in the plug, half fill it with water, throw a towel over it, and leave it so *at all times* when not in use; the "overflow" must be stopped with plaster of Paris.

5. Brush your teeth over the slop-jar, and never over the stationary basin. Never empty the foot-tub or jar into the stationary basin, and report any servant whom you find attempting anything of the kind.

6. Put all little scraps of paper, orange-peel, apple-cores, bunches of hair, etc., *in the scrap-basket.* Nothing of the kind must on any account be thrown into the slop-jars, tubs, or vessels.

7. Never allow any chamber-vessel containing liquid to remain uncovered in the room day or night at any time; never make use of one if the water-closet is at hand.

8. Change all your under-clothing not less than twice weekly; never wear during the day any under-garment in which you sleep. Leave your night-dress in the air on taking it off. It is to be kept hanging in the closet, and not folded under the pillow.

9. If there is a leak in the gas, or a bad smell anywhere about the room, report it at once to the principal.

10. Before going to bed throw the window wide open, and leave the room for ten minutes, closing it afterwards, except for an inch or two at the top with the window farthest from the bed. This is to be left down during the night.

11. Separate your clothes one piece from another on taking them off at night, so that they may be aired. Never throw them in a heap together.

12. You are required to have a calico bag in which to keep your soiled clothing, and to send articles needing washing promptly to the wash.

13. In reading or studying, *never face* a bright light from window or gas-burner. A candle near by is better than two gas-burners at a distance. Turn your back to the light, and sit so that it shall fall on your book. Do not stoop over your book, allowing it to rest on your lap. Sit up straight, and hold it up before you.

14. You are strongly advised not to wear tight corsets or dresses; to take the weight of your skirts on your shoulders, rather than on your hips, by suspenders or waists, with buttons round the band corresponding with button-holes in the bands of your skirts; to avoid high-heeled slippers or boots; to wear clothing that protects your chest; flannels next your skin in winter, and thick boots for walking. Do not be childish enough to spoil your digestion with large quantities of candy and other sweet things.

Sick-Room Memoranda, Connecticut Training School for Nurses, New Haven Hospital.

Date: .... *Nurse.*

Hours.	Temperature of Rooms.	Medicine—Kind and Amount.	Stimulants—Kind and Amount.	Food—Kind and Amount.	Other Prescriptions, Lotions, Bathing, etc.	Respiration.	Pulse.	Temperature.	Perspiration. Action of Bowels. Action of Kidneys. Amount of Sleep. Condition of Mind. Discharge from Wound. Secretion of Milk. Lochial Discharge. Other Symptoms.
A. M.									
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
P. M.									
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

Physician's Directions:

INDEX.

THE END.