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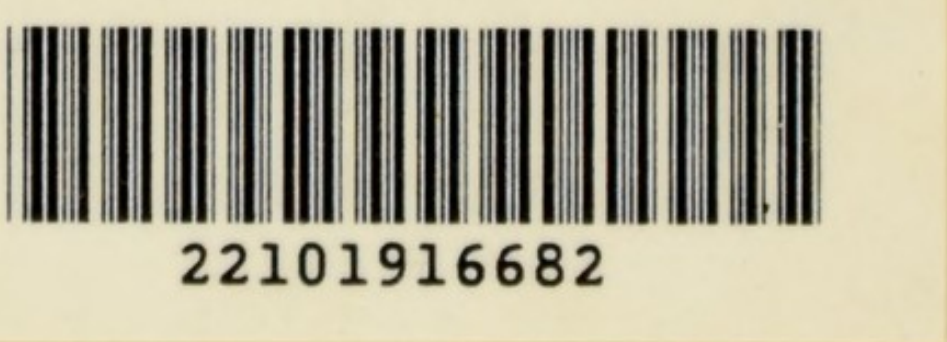
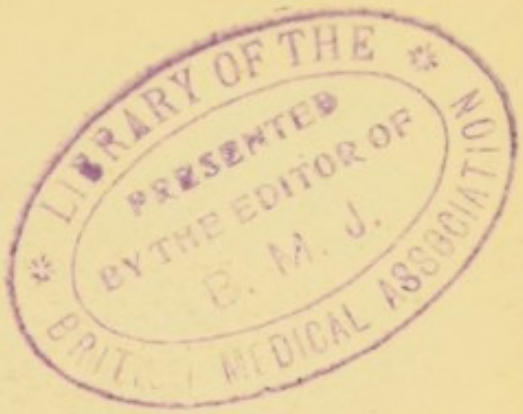
A SHORT MANUAL FOR MONTHLY NURSES

C. J. CULLINGWORTH, M.D.

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FOR

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BY

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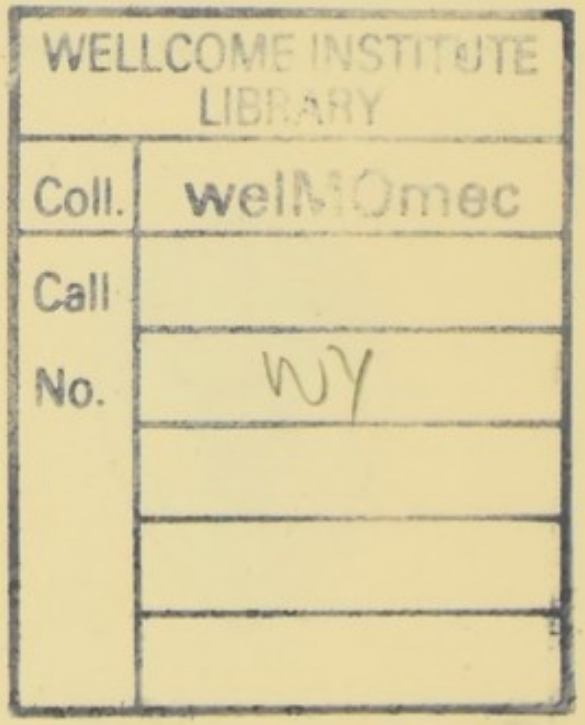

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PREFACE

THOUGH no printed instructions in nursing can ever take the place of practical teaching and personal experience, a text-book has its own sphere of usefulness if only in the opportunity it gives for laying down principles. It is also valuable for reference when a nurse's training is over, and she has no longer a teacher at her elbow who will help her out of her difficulties.

This little manual was originally written by way of supplement to a book on general nursing, but in later editions the publishers thought it better to issue the two parts separately. The part on general nursing has now been long out of print. It has therefore been thought well to include in this edition of the Manual of Monthly Nursing, some of the details which were originally given in the first Part. No change, however, has been introduced which seemed at all likely to interfere with the original intention of the book,

namely, to serve as a practical guide to the monthly nurse, as distinct from the purely medical or surgical nurse on the one hand and from the midwife on the other.

I gladly take this opportunity of expressing my grateful thanks to Miss R. P. Fynes-Clinton for many practical and very valuable suggestions.

C. J. C.

London, 1907.

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CHAPTER I

The lying-in room—Its ventilation—Its temperature—Its furniture—Its sanitary arrangements—Washing of patient—Draw-sheet—Changing sheets—Carrying patients—Cold feet—Bed-pans—Catheter.

The lying-in room should, whenever it is practicable, fulfil the following conditions: It should, first of all, be large and lofty; it should possess a fireplace, not only for the sake of warmth and comfort, but to ensure proper ventilation; it should be light and sunny and therefore should not have a northern aspect; it should be a quiet room and hence should not be over the kitchen or fronting a noisy thoroughfare; it should not be liable to be invaded by a smell of cooking from within the house or of the stable from without; and, lastly, it should have, if possible, a dressing-room attached.

Ventilation.—The object of ventilation is to change the air of a room sufficiently frequently to prevent it from becoming stagnant and unfit for respiration. This is effected by providing for the admission of fresh air in quantity proportion-

ate to the size of the room, and by securing at the same time that the foul air shall have a ready means of escape. The incoming air should not, as a rule, be admitted by the door—*i.e.*, after having been polluted by passing through other parts of the house—but should enter direct from without, either through the window or through a ventilating inlet fixed in an outer wall as far from the fireplace as possible. The point always to be aimed at is to keep the air in the room pure, without chilling it or exposing the patient to a draught, which latter can often be obviated by a suitable arrangement of screens. A fire is an admirable promoter of ventilation. By its means a current is kept up in the direction of the chimney, the natural outlet for the impure air.*

Temperature of room.—It is well for every lying-in room to be provided with a thermometer which should stand upon the dressing-table or be hung against the wall. Unless special orders are given, the temperature of the room should be kept at from 60° to 65° Fahrenheit. Two points in reference to this question are of great importance. The first is that, as the cold is greatest and the body least able to resist it in the early hours of the morning, it is very desirable to keep the fire up through the night so as to prevent the air of

* The fire in the lying-in room must never be used for cooking purposes.

the room from becoming chilled just at that time.*

The second point to remember is that it is much more necessary to keep up the warmth of the room when patients are beginning to sit up than when they are entirely confined to bed and well covered by the bed-clothes.

Sometimes the difficulty is not how to keep the room sufficiently warm but how to keep it cool. If the sun is glaring too fiercely upon the windows, a dark blind or curtain should be hung temporarily in front of it. Otherwise, the blinds should be drawn up in the day-time so as to admit plenty of light, which is almost as important for the well-being of the patient as fresh air.

Furniture.—The furniture of the room should be of a kind which does not retain dust and bad smells, those chairs, for instance, being the best which have plain wooden frames with cane seats. All woollen draperies are to be avoided.

The bedstead should be so placed that a nurse can attend to the patient from either side. It should therefore not have one of its sides against a wall. A large bedstead has this advantage that the patient can have the refreshing change of being moved from one side to the other from time to time. A small bedstead on the other hand facilitates attendance.

* It is a popular tradition that to allow the fire to go out in the night purifies the room. This is quite a fallacy.

Heavy bed-clothing should be avoided. It keeps in the perspiration and often its mere weight does harm. In summer especially, the bed covering should be as light as possible.

A couch or sofa adds very much to the comfortable appearance of a room and is very often of the greatest service during the process of bed-making. Excellent invalid couches of light and simple construction and capable of ready adaptation to any position, are now to be had everywhere.

A small four-legged bed-table, constructed to stand on the bed and provided with a ledge on three sides is useful in many ways, especially during convalescence; it makes a steady and convenient dining-table; covered with a towel it may be made to serve as wash-stand and dressing-table; and it may be also used for writing purposes and for arranging flowers, &c.

Sanitary arrangements.—All vessels containing soiled water, even when it has only been used for washing purposes, and all chamber utensils should be carried out of the room to be emptied and should be well rinsed with clean water before being brought back. In the case of the chamber utensil and night commode, they should be removed immediately after being used; and, after being emptied and rinsed, a little clean water should be poured into them and left in when they are put back into their places. On no account should a chamber utensil be kept under a bed for if it should

occasionally happen that it cannot be removed the moment after use, the bedding must receive some of the noxious effluvia arising from it. Whilst the patient is in bed and unable to be moved temporarily into an adjoining room during the cleaning process, the dust should be taken up from the floor of the lying-in room by means of a damp cloth.

Washing.—Every morning during the two or three days that immediately follow labour, the hands and face of the patient should be washed with soap and warm water without raising her, the neck of the night-dress being unfastened sufficiently to allow of her being sponged and powdered under the arms. The hands may be washed again as often as desired.

The hands and face having been attended to, the external genitals should be throughly cleansed over a bed-bath by means of cotton wool sponges and some warm antiseptic solution.* In the absence of a bed-bath, a large slipper bed-pan may be made to answer the purpose, or, if preferred, the patient may be turned on to her left side,†

* It need scarcely be said that the nurse should always cleanse her own hands thoroughly and disinfect them before washing the patient, changing the pad or performing any other personal office (*see* p. 13).

† If a patient is too weak or ill to turn over on to her side without assistance, the nurse must first of all let her patient lie perfectly straight, with her arms by her side and her legs together and then passing both arms well

with her thighs close to the edge of the bed and the knees drawn up, when, the bed being duly protected by means of a macintosh and folded sheet, the nurse can proceed to cleanse the parts with cotton wool sponges and warm antiseptic solution as already directed. For the first few days whilst the lochia are somewhat abundant it is well to wash the external genitals again in the evening. After every such washing, a dry *warm* pad of *sterilised* or antiseptic cotton wool, or of wood-wool tissue, or a sanitary towel should be placed against the vulva. The external genitals should also be washed and bathed with antiseptic solution and a fresh pad applied, whenever the patient has passed water or had an action of the bowels.

The hair should already have been arranged in two plaits and should be combed through daily. If this is neglected during the first days of the lying-in and especially if the hair was not plaited to begin with, great discomfort is caused from the hair becoming matted and entangled. If a towel be spread over the pillow and the patient be gently turned first on to one side and then on to the other, the hair can be attended to quite easily and without causing the patient any undue fatigue.

After the third or fourth day, the whole body,

under the patient's body, *pull* her gently over on to her side. This is one of those little matters in which skilled knowledge is most valuable.

including the feet,* may be quickly sponged under a blanket, care being taken only to uncover a portion of the body at a time and to prevent any part of the patient being exposed to a draught. At least once a week the whole body (again including the feet) should be washed with soap and water. A thoughtful nurse will always have a hot water bottle ready before the washing begins, so that it can be placed against the feet immediately that the process is over, for washing invariably produces a feeling of chilliness.

After the first three or four days a patient should use a tooth-brush and a little camphorated chalk or other tooth powder at least once daily. Morsels of food and other matters are sure to accumulate about the teeth and if not removed they become septic and not unfrequently offensive.

After the daily washing it is wise to dust the back well with equal parts of powdered oxide of zinc and finely powdered starch, or equal parts of these and of very finely powdered boric (boracic) acid. Should the nurse, whilst washing or bathing the patient, discover a wound or raw surface or any unusual swelling she must mention it quietly to the medical attendant at his or her next visit, and so too if she observes any piles. In the event of the patient complaining of acute

* I mention the feet especially because there is a stupid tradition that it is unsafe to wash the feet of a lying-in woman.

pain from piles the nurse must, until she receives the doctor's instructions, frequently apply a wool sponge rinsed out of very hot water, holding it against the part by means of a piece of dry cotton-wool made hot for the purpose.

Draw-sheet.—A draw-sheet is a great comfort to a patient as it not only protects the bedding, &c., but can be readily taken out to shake off crumbs, &c. It is amazing how much discomfort and irritation may be and are caused by crumbs in bed and how nearly impossible it is to avoid them. They seem to elude the most minute and watchful care and, once they get in, there is no peace until they are got rid of.

An ordinary sheet doubled or a cot sheet answers the purpose of a draw-sheet. It should be folded lengthwise two or three times so that when placed beneath the patient it may reach from the middle of the back to the knees. It should be spread smoothly and well tucked in, or even stretched tightly across and fastened to the sides of the mattress by safety-pins, which is a still more certain means of preventing it from getting wrinkled and so becoming a source of discomfort.

The draw-sheet should at once be changed if it becomes in the least soiled. It is not permissible under such circumstances merely to roll up the soiled portion and tuck it under the mattress.

Changing sheets.—A nurse should know how to change the sheets of a bed without disturbing the patient. In the case of the under-sheet, which of course presents the only difficulty, this can be done either from head to foot or from side to side. The latter method is the more convenient in the case of a lying-in patient and is carried out as follows:—Roll loosely up the soiled sheet sideways from the side of the bed where there is most unoccupied space, until it can be pressed against the patient's side. The clean sheet, previously rolled loosely up from side to side, is then to be unrolled over the uncovered part of the bed, until the clean roll lies by the side of the soiled one. The patient is now lifted over on to the clean sheet, the soiled sheet taken away and the spreading of the clean sheet completed.

The changing of a patient's bed-linen should never be commenced until everything is ready and, of course, the clean linen must have been well aired and warmed in another room.

Carrying patients.—When patients leave their bed for the first time it is often desirable that they should be lifted on to a couch or on to another bed instead of being allowed to walk. In the case of a couch, a blanket should first of all be spread out upon it ready to be folded over the patient. The couch should then be wheeled with its head close up to the foot of the bed (whenever there is room enough), so that the

patient may be moved with as little disturbance as possible.

In lifting a patient from a bed two people are generally required ; the first attendant passes one arm beneath the patient's shoulders and the other beneath the middle of her back, whilst the second places one arm unde the lower part of the back and the other under the two knees. Sometimes, one nurse encircles the patient, with her arms under the patient's arms, clasping her hands over the chest, whilst the second nurse similarly clasps her hands around the thighs just above the knees. But this method is not quite so good as the other, involving as it does some waste of strength. If one nurse is sufficient for the duty of carrying the patient, she must with one arm support the lower limbs beneath the knees and with the other the broad part of the back just below the shoulders, letting the patient put her arm around her neck. She must pass her arms well under the patient before she commences to lift her.

Cold feet.—Many patients suffer great discomfort from cold feet, particularly in the morning which is unfortunately just the time when in the hurry of other work, little matters like this are in danger of being neglected. A nurse should, at this time of the day particularly, ascertain whether her patient's feet are warm and, if they are not, she should lose no time in applying

a hot-water bottle, of india-rubber * or earthenware, wrapped in a fold of thick flannel. Foot warmers of this kind should never be so hot as to be uncomfortable to the nurse's own hand and should be changed every eight hours. Patients whose feet are apt to be always cold should, when in bed, wear woollen night-socks. For cases of this kind, the best mode of applying external warmth is by means of heated sand-bags made of ticking or chamois leather and half-filled with sand ; they can be moulded, as it were, to fit closely against the soles of the feet and they retain their heat for a considerable time. All india-rubber bottles and sand-bags used for the sick or for the lying-in should have covers that can be washed and *boiled*.

Bed-pans should be made of earthenware in preference to metal. The form of bed-pan known as the slipper-pan is the more useful form for female patients both for receiving the stools and the urine. It is passed in the following manner :—The patient's knees having been drawn up, the slipper, previously warmed, is passed under them and the thin end gently wedged, as it were, under the lower part of the back. After having been removed, the pan

* India-rubber hot water bottles, when they are removed from the bed and are not wanted again immediately, should be at once emptied and allowed to drain by suspending them neck downwards.

should immediately be covered over, carried out of the room, emptied, and well rinsed with water. After the rinsing, a little antiseptic solution should be poured into the pan and allowed to remain there.

Catheter.—A monthly nurse is often required to draw off the urine for her patient and, as there are very few duties allotted to the nurse in the performance of which antiseptic precautions are so essential and neglect of them is so certain to set up inflammation, it will be necessary to give somewhat minute directions on the subject.

The catheter may be of soft rubber if required before labour, but during and after labour a glass or metal instrument is alone to be used. In any case the catheter must either be new or must, since it was last used,* have been boiled in a covered vessel for ten minutes in water to which has been added a little washing soda in the proportion of about $\frac{1}{2}$ oz. to $2\frac{1}{2}$ pints of water, and must be placed in a bowl of antiseptic solution *e.g.*, a solution of corrosive sublimate (1 in 2000) or of the biniodide of mercury (1 in 2000), or lysol,

* If the only catheter available is one of gum elastic, it cannot be boiled, but it must be thoroughly cleansed by holding it with the eye upwards and mouth downwards under a tap and allowing a stream of water to run through it in the same direction as the urine will run through it. It must then be left for 15 minutes in an antiseptic solution.

one teaspoonful to a quart of boiled water. A vessel must be in readiness to receive the urine.

The patient should lie on her left side, near the edge of the bed, with the knees drawn well up. The nurse, having first washed her own hands well with soap and warm water and disinfected them by immersion for several minutes in one of the above-named antiseptic solutions, must thoroughly cleanse the patient's vulva by washing the parts well with soap and water, swabbing them with an antiseptic solution and leaving against them a pad soaked in the same solution.

Having soaked the fingers of the left hand in an antiseptic solution the nurse now removes the pad, separates the labia or lips of the vulva and brings the mouth of the urinary passage (urethra) well into view.* With the fingers of her right hand she then takes the catheter direct from the bowl of disinfectant in which it has been lying and passes it into the urinary orifice (meatus urinarius), taking care that it touches nothing on its way. Should the catheter be accidentally soiled either by coming in contact with something

* It was formerly the custom in this country for both doctors and nurses to pass the catheter without exposure of the patient and by the sense of touch alone. It is now recognised that it is not only easier to introduce the instrument when the parts are exposed but that it involves much less risk to the patient. The operation therefore should now always be performed with the help of the sense of sight.

en route or by slipping into the vagina instead of into the urethra, the whole process of cleansing and disinfection must be repeated. It is not *necessary* to anoint a catheter before introducing it. When lysol solution is the antiseptic used, the lysol itself acts as a lubricant. If neither this nor corrosive sublimate in glycerine is at hand, it is not advisable to use any lubricant at all, for substances like vaseline and oil are difficult to render aseptic and are therefore dangerous, and so-called antiseptic ointments are equally so.

The female urethra is very short (its length being under two inches) and nearly straight, its direction, as the patient lies on her side, slanting forwards. Hence there is no difficulty about reaching the bladder when once the instrument has entered the urethra. No force should be used ; the instrument should, as it were, find its own way. To prevent urine escaping into the bed, the nurse should close the mouth of the instrument with her thumb or forefinger whilst she is introducing it and should keep her thumb or finger over the opening until she has placed the vessel which is to receive the urine in its proper position. When the urine has ceased to flow, the nurse must, during the process of withdrawing the catheter, again place her thumb or finger over its mouth or the urine in the instrument will run out and soil the patient's person or her clothing unnecessarily. To prove the need for this precaution the nurse has only to

watch what happens when after its withdrawal she holds the catheter over the vessel and removes her finger. A little stream of urine will run out at the other end.

In order to cleanse the catheter after being used, the instrument should be held for a few minutes in running water under a tap, with the "eye" upwards and mouth downwards, so that the stream of water may run through the instrument in the same direction in which the urine ran. The catheter should then be well rinsed in a basin containing an antiseptic solution, before being put away. Notwithstanding this disinfection, it must be remembered that the instrument cannot be again used with safety to the patient until it has been boiled for ten minutes in a covered vessel, as already directed.

The object of all this elaborate purification is to avoid that very painful affection known as cystitis or inflammation of the bladder, which, when it occurs, may almost invariably be traced to contamination by a septic, in other words a dirty, catheter.

CHAPTER II

Diet of the sick—Serving of food—Stimulants—Administering medicine—Suppositories—Subcutaneous or hypodermic injections—Enemata—Vaginal douche.

THE diet of the lying-in woman, in normal cases, will be spoken of in a later chapter. It may be well, however, to make a few remarks here on sick diet in general and on the serving of food to the sick. (For some simple recipes, *see* Appendix.)

The kind and quantity of the food and the frequency with which it is to be given are, in every case, determined by the medical practitioner in attendance. Except where the directions are of the simplest character, they should be written down for the nurse's guidance, and in order that they may be accurately carried out the nurse should take pencil and paper and construct a time table, noting the hours at which food, and stimulants and medicine if these are ordered, respectively fall due. If a little mark be placed against each when it has been duly given and a line drawn through whatever has been omitted, the paper will serve as a faithful report of what the patient

has had and will be very helpful to the medical attendant.

Milk is very liable to become the carrier of disease germs. It should therefore always be boiled before it is used, so as to make certain that any disease germs that may have found their way into it have been destroyed.

When repeated vomiting interferes with the giving of food, the proper course is to withhold food altogether and allow the stomach a little rest. The vomiting which often follows the administration of chloroform, ether or other anæsthetic is best relieved by giving small quantities of hot (not tepid) water and repeating them at frequent intervals. As soon as the vomiting appears to have ceased, a small quantity (a tablespoonful for example) of barley-water (cold or warm according to the patient's inclination) or of equal parts of milk and soda-water should be tried and if this be kept down, it should be repeated several times at intervals of ten or fifteen minutes. These intervals must be cautiously lengthened as the feeling of sickness abates, and the quantity of fluid increased until the patient is able to return to her ordinary diet.

Those patients who are only able to take fluids, require feeding in small quantities and frequently. The most usual plan is to give nourishment, in stated quantity, every two hours. When a patient is able to take solid food, her meals should

generally be served at intervals of four hours. Whatever the interval may be, whether two hours or four, the food should be ready punctually.

Serving of food.—Food served up for the sick or lying-in should always be less in quantity than is required rather than more and should be presented to the patient in the most tempting manner possible. The exercise of care in regard to these little points has a greater effect upon the appetite than is often supposed. It is far better that a further supply should be asked for than that a considerable portion of what has been served up should be sent away.

When a meal is finished all that remains and everything connected with the meal, cups, plates, glasses, &c., should be cleared away at once. Patients soon come to loathe the very idea of eating when reminders of the last meal are carelessly left about. If they are left about in the hope that the patient may ask for some of the remains or help herself to them before the next meal is due, that too is objectionable. For the stomach requires rest and a patient is much more likely to enjoy her food, if she has had time to become hungry. It is notorious that, as a rule, patients in hospitals eat much more food and with keener appetite than they do in their own homes; and there is no doubt that this is largely due to the regularity with which the meals are served and to the fact that the patients seldom get anything to eat during the intervals.

In all cases where the patient is too ill or is forbidden to sit up in bed, a feeding cup with a curved spout should be used, a clean towel having previously been pinned loosely round the neck. Should the head need to be raised, the nurse's hand should be passed well beneath the pillow, the head and the pillow being gently raised together.

Only when special orders are given should patients be awakened to take nourishment, but if a meal is overdue when they awake, no time should be lost in serving it. Similarly, patients should not be kept long without their breakfast after awaking in the morning ; when the hands and face have been washed and the teeth attended to, the meal should be served with as little delay as possible.

Stimulants.—Stimulants should of course never be given except by direction of the medical attendant and the quantity ordered must always be carefully measured in a graduated measure-glass.

Administering medicines.—Nurses should never, by any chance, omit to read the directions on the label before administering the medicine. Attention to this rule would have prevented many serious, and not a few, fatal mistakes. Every bottle of medicine should be well shaken before a dose is poured out, and during the pouring the bottle should be held with the label side upwards in order to preserve the legibility of the

directions. Measure-glasses should always be used, for, though the old custom still prevails of prescribing medicine in teaspoonfuls and tablespoonfuls, yet in practice spoons are found to vary so much in size that a more definite and accurate method of measuring is necessary. Measure-glasses are sold by all chemists and are of two kinds, one cup-shaped, the other shaped like a funnel; of these the latter is to be preferred because it is easier with it to measure small quantities with accuracy. When drop (minim) doses are ordered the medicine should not be dropped from the bottle, but measured in graduated minim measure-glasses, as the size of drops (as dropped from a bottle) varies according to the shape of the mouth of the bottle and the nature of the fluid.

It is of great importance, when medicine is being measured out that the glass should be held by its base, perfectly straight and at such an elevation that the marks on the glass are on a level with the nurse's eye. The marks on the glass indicate sometimes teaspoonfuls and tablespoonfuls and sometimes fluid-drachms and fluid-ounces. The one kind can be used just as well as the other, provided it is borne in mind that by "spoonfuls" certain definite measures are intended to be understood. Thus—

One teaspoonful means *one fluid drachm*=ʒj or fl. dr. j.
Two teaspoonfuls means *two fluid drachms*=ʒij or fl.dr.2.

One dessertspoonful means *three fluid drachms*=℥iij or fl. dr. 3.

One tablespoonful means *four fluid drachms*=℥iv or fl. dr. 4. or *half a fluid ounce*=℥ss or fl. oz. ½.

Two tablespoonfuls means *one fluid ounce*=℥j or fl. oz. 1.

If no special directions are given as to the time of administering the medicine, it is proper to give it, when ordered to be taken three times a day, midway between meals. When it is ordered to be taken more frequently, at least half an hour should be allowed to elapse between the giving of food and the giving of medicine, unless special directions are given to the contrary, as is sometimes the case when cod-liver oil or some of the more powerful tonics are ordered. Separate measure-glasses should be kept for oily medicines. Castor-oil may be shaken in a bottle, immediately before being administered, with three or four times its bulk of hot milk.

Effervescing medicines should be given in a tumbler, the prescribed dose of the acid mixture, or of the lemon juice, being measured and poured into the tumbler first and the dose of the alkaline mixture being poured in subsequently when the tumbler is already in the patient's hand. A more perfect mixture of the two is thus ensured and a more satisfactory effervescence than when the acid is added last.

Suppositories are little firm masses, moulded into the form of a diminutive sugar loaf, for

introduction into the lower end of the bowel (rectum). They are made of various medicinal substances, mixed with oil of theobroma or with cocoa-nut stearine. They melt slowly in the bowel leaving the medicine free to become absorbed. If the patient does not prefer to pass it for herself, the nurse inserts it as follows :—The patient lies on her left side close to the edge of the bed and draws the knees well up towards the abdomen. The nurse then, having previously lubricated her right forefinger with vaseline, exposes the opening into the patient's bowel, and passes the suppository well within, the smaller end uppermost. The finger must be withdrawn carefully, otherwise the suppository will be expelled.

Subcutaneous or hypodermic injections.—The method of administering medicines by injecting them, dissolved in a few drops of liquid, into the loose tissue immediately beneath the skin, is one of great value and of constantly extending application. Remedies thus introduced act much more powerfully and rapidly than when given by the mouth.

As a rule, subcutaneous (or hypodermic) injections should be given by the medical attendant himself; but as he may, under certain circumstances, direct the nurse to give them, it will be convenient to describe here how it is to be done.

Hypodermic syringes are now generally made either of metal or of glass, so as to allow of their

being sterilised by boiling. Metal is preferable as glass syringes are very easily broken. There are, however, still a good many in use that are not so constructed, or that have fittings which will not permit of their being boiled. Under these circumstances, the interior of the syringe must be kept scrupulously clean, and the needle must be sterilised by being held for a few seconds in the flame of a spirit-lamp immediately before use.

The drug to be injected is now usually to be obtained in the form of "tablets for hypodermic medication"—small solid discs, each containing a specified quantity of the drug. One of these little discs, containing the dose required, is to be dissolved in a few drops of water that has been boiled. Usually this is done in a clean silver teaspoon. It must be remembered that if more water be used than the barrel of the syringe will hold, either a second injection will have to be made or the patient will only get part of the intended dose. Sometimes, in order to prevent this, the syringe is filled with water and the tablet dissolved in the instrument itself instead of in a teaspoon. If the drug is not in the form of tablets but of solution, then the dose will consist of a specified number of drops which, unless the barrel of the syringe itself is marked, must be accurately measured in a sterilised minim measure-glass. The solution having been prepared

and the syringe and the needle having, if possible, been sterilised by being boiled for ten minutes, the needle is screwed on and the fluid to be injected is now drawn up into the syringe by means of the piston. It usually happens that bubbles of air are sucked up along with the fluid. In order to get rid of these the syringe must be held with its point upwards and the bubbles of air, having first been coaxed to the surface of the fluid, must then be forced out by pressing the piston-rod whilst the instrument is still inverted. When the required number of drops has been drawn up and all the air bubbles have been expelled, the needle should, in case it has not already been boiled, be now sterilised by holding it for a few seconds in the flame of a spirit-lamp. Then a fold of skin on the outer side of the upper arm, that is, of that part of the arm between the shoulder and the elbow (not the forearm where the tightness of the skin and subjacent tissues renders the little operation needlessly painful) is pinched up between the thumb and finger of the left hand, and the needle, held slantingly, is pushed quickly through the skin, and, the point having been made to move about a little in the tissues so as to make sure that it has passed fairly through the skin and plays freely in the loose tissue beneath, the flow is slowly injected. The needle is then rapidly withdrawn and the finger placed over the puncture for a few seconds to prevent the

fluid from escaping. The operation, if done dexterously, is all but painless.

The injection may be ordered to be made under the skin of the thigh, or of the back just below the shoulder-blades, or of the front of the chest just below one of the breasts, instead of in the upper arm.

Before putting the syringe away, it should be well cleaned by repeatedly drawing up and forcing out again a syringeful of clean water, and finally if the syringe be of metal and there is a little spirits of wine at hand, by drawing up and forcing out a syringeful of spirits of wine which will prevent the metal of the syringe from becoming rusty and will act also as an antiseptic.

Enemata.—Injections into the bowel, or enemata, are generally given for the purpose of emptying the bowel of its contents, sometimes for the purpose of administering food or medicine.

Of the instruments in common use the syringe known as Higginson's is the simplest. It consists of a hollow elastic ball, oblong in shape, to each end of which there is attached an india-rubber tube, which communicates with the ball by means of a valve. At the other end of one of the tubes is an ivory or bone nozzle, with a shoulder-piece, for passing into the bowel; the other tube terminates at its outer end in a perforated metallic cap, or, what is perhaps still better, a suction cap,

through which is drawn up the fluid to be injected.

A quantity of warm water should be pumped through the syringe before it is used. This drives out the air, warms the instrument and at the same time proves that it is in good working order. The fluid to be injected, which should be of a temperature of about 95° to 98° Fahrenheit, is placed in a jug or basin upon a chair by the side of the bed. The patient lies on her left side close to the edge of the bed with her knees drawn up, the bed being protected by a piece of macintosh and a folded sheet. The nozzle of the syringe, previously lubricated with oil or vaseline, is passed gently into the bowel, the opening into which should be fully exposed so that the nurse can see what she is doing. The nozzle should be introduced as far as the shoulder-stay and should be held in position by the nurse whilst she slowly and gently pumps in the amount of fluid required. In the case of an ordinary aperient enema, a pint or more of fluid will usually be required. Should the injection, during its administration, give rise to griping pains, the nurse should cease pumping for a few seconds and then when the pains have passed off gently continue. After withdrawing the nozzle, a warm folded towel should be pressed against the opening or anus and the patient enjoined to retain the fluid, if possible, for a few minutes. If the patient is not too ill, she should

then be allowed to get out of bed and either retire to the water-closet if closely adjacent, or use the night commode. If too ill to rise from the bed without risk, she may turn over on to her back and use a bed-pan, and if she is too feeble even to do this, she must be allowed to empty the bowel into an ordinary chamber utensil held closely against her as she still lies on the left side.

Should any difficulty be experienced in introducing the nozzle or injecting the fluid, the nozzle should be withdrawn in order to ascertain whether it has become choked with fæcal matter. In any case the nozzle should be well cleansed inside and out before it is again inserted.

After being used, an enema syringe should be cleansed by washing it in hot watĕr and pumping hot water through it. It should then be hung up by a loop fastened round the metallic (or suction) end; this position keeps the valves open and allows any contained fluid to run out.

If, instead of being hung up, the apparatus is folded up and put away in its box, the india-rubber soon cracks and the instrument is rendered useless.

The most useful aperient enemata are soap-and-water and thin oatmeal gruel, to a pint of either of which the medical attendant may occasionally order a tablespoonful of turpentine to be added. Sometimes a small enema (about

4 fluid ounces) of warm olive oil is ordered to be given.

Warm salt and water in the proportion of a teaspoonful of salt to a pint of boiled water at a temperature of 100° Fahrenheit, known as normal saline solution, is now frequently ordered to be injected into the bowel not only in small quantities of one or two pints for aperient purposes, but in larger quantites as a restorative after severe losses of blood, or in severe shock after an accident or an operation.

Some patients find the injection into the bowel of two teaspoonfuls of undiluted glycerine sufficient to ensure a satisfactory action of the bowels. Small syringes of glass and vulcanite, specially constructed for this purpose, are sold by every chemist.

Vaginal douche.—The apparatus necessary for administering a vaginal douche consists of a douche-can, capable of containing from one to two quarts of fluid, a long india-rubber tube furnished with a stop-cock, and with a nozzle made of glass and perforated at the sides (but not at the tip) with a number of holes. The can should be so constructed as to hang at a suitable height against the wall. The tube is fixed to the lower end of the can, and some warm water should be allowed to run through the tube immediately before it is used, not only to eject the air and to warm it, but to make sure that it is in good working order.

The tap should be turned off before the can is emptied, so as to ensure there being no air in the tube by keeping it full of water.

The patient lies near the edge of the bed, on her back, with a bed-pan underneath her to receive the returning fluid. The external parts having been cleansed and disinfected in the manner described when speaking of the passing of the catheter, the knees are drawn up, the nozzle of the tube, previously rendered aseptic by boiling (in water to which has been added a little washing soda in the proportion of about $\frac{1}{2}$ oz. to $2\frac{1}{2}$ pints), is passed under one knee and so into the vagina, the end being directed towards the upper and back part of the canal. The patient herself can hold this part of the apparatus in position whilst the nurse, having put the fluid to be injected into the can, and having ascertained that the fluid is of the proper temperature, turns the tap and allows the fluid to douche the vagina. She should turn the tap off before the can is quite empty, as otherwise bubbles of air will pass to the annoyance of the patient. In withdrawing the nozzle it should be held with its tip uppermost so as to prevent the escape on to the bed of the fluid remaining in the lower end of the tube.

Immediately after being used the apparatus should be well cleansed.

Vaginal douches may be simple or medicated. Medicated solutions, of which perhaps a solution

of boric acid of the strength of a teaspoonful to a pint is the most generally useful, are only to be used when ordered by the medical attendant, who will give directions as to the temperature, &c., and the frequency. Warm douches should be of a temperature of 85° to 100° Fahr., hot douches of a temperature of 105° to 115°.

CHAPTER III

Fomentations: Simple, turpentine—Linseed-meal poultice—Mustard leaves—Dry heat—Baths—Mental excitement.

Fomentations form a convenient and ready method of applying moist heat to a part and are often extremely useful in relieving pain.

In hospitals, where flannels are kept specially for this purpose, they are made double, of various sizes and are stitched together at the ends but not at the sides. This mode of stitching is to facilitate the wringing, which, if there does not happen to be a proper "wringer," is accomplished by means of two wooden rollers slipped between the folds of the flannel, one at each end.

In home nursing, where these appliances are seldom available, the best plan is to lay a coarse towel in a basin, fold the flannel the size required, place it on the towel and pour boiling water over it. Then by taking up the towel and rolling it loosely up with the flannel inside and finally twisting its ends in opposite directions, the flannel can be well wrung out. All being in readiness, the towel, which has been kept rolled

up to the last moment in order to prevent the flannel from becoming cool, is now unfolded, the folded flannel is taken out and shaken (in order to admit a little air between its folds) and is then laid on the suffering part as quickly as possible. If it is too hot to be borne, it should be held an inch or two away for a few seconds and then another trial should be made, the patient being encouraged to bear it while still hot enough to be really effective. At the same time a nurse must remember that she will suffer serious discredit if she applies a fomentation so hot as to raise a blister. When the fomentation is in its place it should be completely covered either with a piece of macintosh or with a double fold of warm dry flannel.

A fomentation requires to be changed in a quarter of an hour, a fresh one being in readiness before the other is removed. How many times the fomentation should be renewed is, of course, a matter for the medical attendant to determine. In the absence of instructions a nurse cannot be doing wrong in continuing the process for an hour, or for a shorter time if the pain is relieved.

Turpentine fomentations constitute a most valuable form of counter-irritation and are frequently very efficacious in rapidly relieving pain. They are prepared in the same way as simple fomentations, but when the hot flannel has been wrung out and shaken and is just ready to put on,

one or two tablespoonfuls (half a fluid ounce to a fluid ounce), according to the size of the fomentation, are to be quickly sprinkled over that face of the flannel which is to go next to the patient's skin. The flannel should be completely covered in by means of a fold or two of warm dry flannel or a piece of macintosh sheeting and should be allowed to remain on for about twenty minutes. If kept on too long, it may produce blisters, which is not an effect desired.

Some dry cotton-wool should be applied to the part when the turpentine fomentation is removed.

A Linseed-meal poultice should be made as follows: Put a little boiling water into a basin that has been previously warmed by being rinsed out with hot water, and quickly add, little by little, stirring well the whole time, a sufficient quantity of linseed-meal to make a firm poultice. When it is mixed, spread it thickly by means of a broad knife or spatula, dipped in hot water, upon a piece of linen or cotton or upon tow, leaving an uncovered margin to be turned in over the edge. A layer of muslin placed over the face of the poultice prevents detached fragments of linseed from adhering to the skin, without interfering with its efficacy. A poultice, like a fomentation, should be applied as hot as the patient can bear it. If it is too hot for the nurse to be able to bear it against her own face she may conclude that it is hotter than a patient can

bear it, though of course patients differ in their sensitiveness to heat. A covering of thin macintosh sheeting, or what is still better, of cotton wool surrounded by dry flannel, serves to preserve the heat and prevent evaporation of the moisture. A poultice should always be well secured in its place, by bandaging if necessary, so as to prevent cold air from finding its way between it and the skin, an occurrence which quickly renders it useless and uncomfortable. Linseed-meal poultices require to be renewed, generally speaking, every four hours. The old poultice should not be removed until the fresh one is ready.

Mustard leaves have now entirely superseded the old-fashioned mustard plaster, for which they form a cleanly and efficient substitute. They simply require to be cut of the required size, dipped for a few seconds in warm water, applied while still moist and covered over with a layer of cotton wool and a folded piece of dry warm flannel. The cotton wool and flannel may with advantage remain on for a few hours when the mustard leaf has been removed. The average length of time during which a mustard leaf should be kept on is about twenty minutes. The object is to cause reddening but not blistering of the skin; hence it is desirable that the patient should not keep it on too long.

Dry heat is a safe and valuable remedy for the prompt relief of pain. It is best applied in the

form of an india-rubber or earthenware bottle containing hot water and wrapped in a fold or two of flannel. It may also be applied in the form of woollen bags half filled with salt or dry bran and made hot on a dish in the oven. If none of these be at hand, a loose oven-shelf made hot and well enveloped in flannel will make an efficient substitute.

Baths.—In preparing hot and warm baths, a nurse must always test the temperature of the water by means of a bath-thermometer, and not trust to her own sensations which are apt to be misleading. The hot water must be allowed to run into the bath first and the cold water then added until the thermometer shows the bath to be of the required temperature. The body of the patient should, as a rule, be wholly under water up to the neck.* Whatever be the temperature when the patient enters the bath, it must be kept at the same height the whole time; hence the thermometer should be used every five minutes, and if the water is found to have become cooler, more hot water must be added.

The proper temperature for a hot and a warm bath respectively and the average time that, in

* In patients, however, whose lungs are not sound or whose heart is weak, the water should not be allowed to cover the chest lest the weight of it should dangerously embarrass the breathing.

the absence of special directions to the contrary patients should remain in them are as follows :

For a hot bath, from 98° to 105°, and its duration 10 to 15 minutes.

For a warm bath from 92° to 98°, and its duration 15 to 20 minutes.

On leaving the bath it is advised that the skin should be rapidly rubbed over with a sponge squeezed out of cold water, or with a cold wet towel wrung out, and then quickly but thoroughly dried. The patient should be carefully preserved from exposure to draughts and should dress or get into bed without delay.

The effect of hot baths upon the nervous system is to stimulate and excite it, that of tepid and warm baths to calm and soothe it. Hot baths sometimes produce a feeling of faintness. On this account a patient should never be left alone whilst in a hot bath. The moment she complains of feeling faint the nurse should insist on her leaving the bath.

Mental excitement.—Lying-in patients are subject to a peculiar form of mental excitement. Attendance upon cases of this kind requires the greatest watchfulness, patience and tact. A nurse will do wisely to humour the patient as much as possible, listening quietly to what she says, and above all things avoiding contradiction. Sleep is the great remedy for undue mental

excitement, but it is often most difficult to secure. Much may be done, however, by surrounding the patient with conditions that favour repose. Thus, in a private house, the room should be cleared of all its occupants except the patient and her nurse, light should as far as possible be excluded by pulling down the blinds and drawing the window curtains if it be daytime, and by lowering the gas or extinguishing the lamp if it be night-time, and the nurse should sit quietly by the bedside, talking and moving about as little as possible, and avoiding all appearance of anxiety or alarm. Sleeping draughts are never to be given unless ordered by the medical attendant. Sponging the body with vinegar and warm water can never do harm and is often useful.

Mental and delirious patients are very cunning and watch their opportunity to get into mischief. Hence the most unwearied vigilance is needed on the part of the nurse. The windows should be fitted with stays, so that patients cannot raise the sash sufficiently to jump out, and all razors, knives and fire-irons should be put out of reach.

Should the mental disturbance assume a violent form, mechanical restraint may become suddenly necessary, and it is well therefore that a monthly nurse should know how to apply it until skilled help arrives. In the first place, it must be remembered that restraint, if applied at all, must be applied effectually or it will irritate the patient

instead of soothing her. As a strait jacket is not likely to be at hand, it may be useful to describe a method of restraint which answers the purpose very well, namely, packing the patient in a dry sheet. Two strong binders are to be laid across the bed with their ends hanging over the bedside, a blanket is then placed on the bed and upon it a large dry sheet. The patient is made to lie down upon the sheet which is folded over and tucked well and evenly under the shoulders and body so as to cover her completely from the neck downwards. The blanket is next drawn over the sheet and tucked evenly under the patient on both sides. The nurse then passes her hand under the feet, lifts them up and tucks back the lower end of the sheet and blanket under the heels. The binders are now tied around the patient and other bed-clothing is added if necessary.

No one knows better than the writer that it is one thing to describe this method of restraining a violent maniac and quite another thing to carry it out in practice. Nevertheless it is a useful and efficient method and, as it cannot do any harm, an effort should be made to carry it out when the condition of the patient is such as to call for restraint.

CHAPTER IV

Observation of the patient—Rigors—Sleep—Pain—Countenance—State of skin—Mental state—Respiration—Appetite—State of bladder—Urine—State of the bowels—The pulse—The clinical thermometer

As the medical attendant is necessarily to a great extent dependent upon the nurse's report for his knowledge of his patient's condition and symptoms, it is of the utmost importance that she should know what to observe and how to observe accurately. The object of this chapter is to assist her in obtaining this knowledge.

Rigors.—Of all the symptoms that it is incumbent upon a nurse to note, perhaps rigors are the most important. They are attacks of shivering, and they vary in degree from a mere sensation of chilliness down the spine to a violent fit of shuddering involving the whole body, often accompanied with chattering of the teeth and sometimes with vibration of the bed itself so as closely to resemble an attack of ague. They may last but a few seconds or they may continue for a quarter or even half an hour. Their value

as symptoms is due to the following facts, viz., (1) that most fevers and acute inflammations begin with a rigor, and that, speaking generally, the intensity and duration of the rigor, occurring under these circumstances, are the measure of the severity of the coming illness; (2) that when, instead of ushering in an illness, they occur in its course, they generally mean that a fresh infection or that suppuration is taking place.

It is important for the nurse to be aware that these paroxysms of shivering, though they convey the impressiom to the patient herself that she is cold, are not necessarily a sign that this is really the case. If the temperature of the body be noted, at the time of their occurrence, by means of a clinical thermometer, it will be found to be not lower than natural but higher.

Rigors, then, must invariably be reported, and in reporting them accurate details must be given as to the time of their occurrence, their number, their severity, their duration and the patient's temperature at the time they were observed.

Sleep.—Sleep is another matter of which minute particulars must be given: thus, besides noting the hour of falling asleep and the hour of awaking, the character of the sleep should be described, for example, whether quiet or restless, and whether different in character from the patient's usual sleep.

Pain.—The occurrence of pain should always be noted down and reported, with particulars as to the time of its coming on, its duration, whether it is constant or only occasional, its locality, *i.e.*, the part in which it is felt, and lastly its character and the degree of its intensity. The nature of the pain differs according to its cause and the particular structure involved; thus, it may be of a stabbing, tearing, aching, shooting or throbbing character. In describing sleep a nurse gives an account of what she has herself observed, but in describing pain, she is dependent on what the patient tells her, she cannot observe it for herself. It is well, therefore, for the nurse to describe the pain in the patient's own words.

Countenance.—It is scarcely necessary to say that any marked change in the colour of the face, such, for example, as sudden paleness or blueness of the cheeks and lips, should find a place in the nurse's notes; the former signifying a tendency to faintness, the latter some impediment to the breathing. Similarly, any change in the expression is always to be reported. A pinched and anxious look is often the forerunner of serious mischief, and a sudden loss of expression, betraying an apathy and lack of interest in what is going on around her, is not unfrequently a symptom of very evil omen.

Skin.—The state of the skin is often a valuable indication to a medical attendant, and the nurse should always mention anything unusual in regard either to its colour, its dryness or moisture, or its heat.

Respiration.—Naturally, a grown-up person breathes about eighteen times in a minute ; in inflammation of the lungs (pneumonia) this number may be more than doubled. The medical attendant usually records the number of respirations himself in cases in which it is necessary, but he may occasionally depute this duty to a nurse. When that is the case, the nurse should place one hand flatly and lightly upon the pit of the patient's stomach and count the number of times in one minute that the chest heaves, a watch with distinct seconds-hand being used for the purpose. As the respiratory movements are influenced by the patient's emotions and by her will, it is a wise precaution not to let her know that they are being counted.

Mental state.—It has already been stated that lying-in patients are liable to a peculiar and distressing form of mental derangement. Hence, if a nurse finds her patient irritable in temper and difficult to manage, she must immediately report it to the medical attendant, and in the meantime must avoid anything like contention or direct contradiction. By a firm, quiet, decided manner a good nurse will be able to carry her point with-

out exciting her patient (*see* page 36). Patients often pull themselves together during a doctor's visit and may thus mislead him. It is therefore especially necessary that the nurse should at once report any alteration in manner or any sign of mental wandering (delirium).

Appetite.—The condition of the appetite is a matter that it is scarcely possible for the medical attendant to observe for himself. It is therefore a special duty of the nurse to report on this point with great care. The importance of keeping an exact record of the kind and quantity of food, and the hour at which it is taken, has been already insisted on in an earlier chapter; but under the head of appetite more than this is included. It is necessary to know whether the food is taken against the inclination and as a mere matter of duty, or, as it ought to be, with eagerness and enjoyment.

State of the bladder.—A most important point for a nurse to report is whether the patient is able to pass her urine or requires the catheter. Special rules to be observed in regard to the state of the bladder immediately after labour will be found in a later chapter. It may however be well to call attention here to the difference between retention and suppression of urine. When the urine is secreted and accumulates in the bladder as usual, but the power to empty the bladder is wanting, the case is said to be one of retention of

urine. When on the contrary the failure to pass urine is due to there being none to pass, the case is one of suppression. Both conditions are urgent, but in different ways.

Urine.—The medical attendant may require a specimen of the urine to be reserved for examination. In that case the nurse should obtain a proper urine glass, tall and narrow and tapering towards the bottom, which should be placed in another room, with a loose paper cap over it to keep out the dust, and should be refilled night and morning. The shape of the glass facilitates the collection of the sediment for microscopical examination if required.

The nurse is not unfrequently called upon to measure the quantity of urine passed by the patient in a given time. This is best done by collecting it for twelve hours—say from eight in the morning until eight in the evening—measuring in a large graduated measure-glass or earthenware measuring jug, and noting down the quantity in fluid ounces. To ensure accuracy the patient should be asked to use the same vessel for urinating purposes throughout the day as far as she possibly can.

The bowels.—The state of the bowels is only a little less important than the state of the bladder, and any constipation on the one hand, or diarrhœa on the other, should be reported.

The pulse.—Occasionally a nurse is called upon to note the number of the pulse at certain

stated intervals. This is done by placing one or two fingers lightly upon the radial artery just above the wrist on its palmar aspect and on the same side as the thumb. When the pulse is felt quite distinctly, the nurse, with a seconds-hand watch in front of her, should count the pulsations through a full minute by the watch. If any difficulty be experienced in finding or counting the pulse at the wrist, the nurse should place her hand over the heart itself, which can almost always be felt beating a little below and to the inner side of the left nipple.

The pulse of an adult in health beats on an average about 72 times in the minute.*

The pulse is quickened by alarm or excitement, hence it is important to observe the temperature before accepting a rapid pulse as an indication of the presence of fever or of other serious condition.

Clinical thermometer.—To take a patient's temperature, a self-registering clinical thermometer must be used. On each thermometer is a scale of degrees of temperature and a little arrow marks the average temperature of health, about 98½ degrees of Fahrenheit's scale, the one com-

* This number is exceeded during infancy and childhood ; thus, during the first weeks of life it beats from 120 to 140 times in the minute, in the second year about 110 times, at the age of five about 100 and at the age of eight about 90.

monly used in this country. The reading of the scale is not a difficult thing to master. The thermometer is marked by a number of thick black lines, between each two of which are four shorter and finer lines. The thick lines stand for degrees; the lighter lines between divide each degree into five equal parts, each of these representing two "points" or tenths of a degree. In reading the thermometer, the upper end of the index (a small portion of mercury separate from the main column, which latter, when not heated by contact with the body, sinks down into the bulb of the instrument) is to be looked for, and the degree and the number of "points," if any, above the degree are to be noted and written down there and then. Before using the thermometer, care must always be taken to see that the index is below 97°. If it is not, it must be shaken down.

In the adult it is usual to take the temperature in the armpit or in the mouth. To take it in the armpit, the skin of the part must be dried and the bulb of the instrument placed and held between the folds of the armpit whilst the elbow is bent and drawn well forwards so as to rest on the patient's chest and grasp the thermometer securely. The nurse should then, having assured herself that the instrument is held firmly, cover the arm and shoulder with the bed-clothes and leave it for five minutes, at the end of which time she should withdraw it, read off the temperature, shake down

the index to its proper place below 97° and thoroughly wash the instrument so as to be ready for use next time.

To take the temperature in the mouth, the bulb of the thermometer should be placed beneath the tongue, at one side of the mouth, and the patient should be told to close her lips upon the stem and thus retain the instrument in position for at least three minutes.

The same mode of taking the temperature should be adopted throughout the case, as there is sometimes a slight difference between the temperature of the mouth and that of the armpit.

The temperature should be noted day by day at the same hours. Sometimes a nurse is required to take it every four hours, sometimes and more usually night and morning. In the latter case, the most suitable hours are 8 A.M. and 8 P.M. Any temperature above 99° shows some degree of fever, and a temperature of 105° or 106° is an indication that the condition of a patient is extremely serious.

CHAPTER V

Antiseptics in obstetric nursing—Puerperal or child-bed fever a form of blood-poisoning—Mode of its propagation—How to prevent it—Antiseptics and how to use them in the lying-in room.

Antiseptics in obstetric nursing.—Of all the subjects with which it behoves a monthly nurse to be familiar, there are not any that rival in importance the use and mode of application of antiseptics in the lying-in room. In order to realise this, it is necessary to have an intelligent knowledge of the principles upon which the antiseptic treatment is based. Without such a knowledge, no one can be trusted to carry out the treatment efficiently. A nurse who, under the impression that she is carrying out the antiseptic system, pours, without stopping to measure them, a few spoonfuls of an antiseptic solution into the basin of water in which the hands are about to be washed, shows in doing so that she has not yet mastered the first principles, even the A B C, of that system. She is living in an atmosphere of false security, and jeopardises the

life of every patient that comes under her charge.

Puerperal or child-bed fever.—It has long been known that women after confinement are liable to a disease known as puerperal or childbed fever, which often proves quickly fatal, and which, if not immediately fatal, too frequently leaves the patient a wreck of her former self, crippled by internal inflammation and incapacitated for the ordinary duties of life for weeks, months, and even years. We have no means of knowing how many women are made chronic sufferers by the less fatal forms of this disease, but, leaving these out of consideration and taking note only of the cases that die, we are able to obtain some information from the reports of the Registrar-General. From these reports it appears that, in England and Wales alone, from eighteen hundred to two thousand women are certified as dying from childbed fever every year. Probably for every woman that dies from the fever five or six recover, escaping with a serious and prolonged illness. In this way we may arrive at some idea of the extent to which this disease prevails amongst the women of this country. Very little was known until recent years as to the cause of childbed fever. It was known that it could be carried from one patient to another by those in attendance, and that when it appeared in any given district it was apt to

follow the track of some one doctor or midwife, or nurse, showing that they, in some way or another, were the carriers of the infection. All this is now explained by the discovery that the disease is a form of blood-poisoning due to the entrance into the patient's body, during or soon after delivery, of certain minute particles of living matter called infectious germs or microbes. Some light was thrown on the manner in which these disease-germs are conveyed to the genital organs of the lying-in woman when attention was drawn to the fact that women delivered without assistance almost invariably escaped the disease. This circumstance, taken together with the known communicability of the disease through the medium of the doctor, midwife, or nurse, made it seem more than probable that the poison was conveyed by the touch of those in attendance, or by the use of unclean sponges, injection-pipes, instruments, or other appliances used in the lying-in room. It has now been fully proved that this inference was correct. It has been shown in the most convincing manner that if the hands of the attendants—that is, of the doctor, the midwife, and the nurse—and all the appliances used by them, are rendered aseptically clean by the systematic use of heat or of certain chemical substances that possess the power of destroying disease-germs, puerperal fever seldom or never occurs. Previous to the introduction of

antiseptics,* the lying-in hospitals were scarcely ever free from puerperal fever. The result of the regular use of antiseptics in these hospitals has been, in some instances, to abolish puerperal fever entirely, in others, to render its occurrence an event of extreme rarity, easily accounted for by imperfection of method or by occasional hurry or carelessness. All this points to the conclusion that when this fever occurs it is because the attendants' hands and appliances have *not* been aseptically clean.

How to prevent puerperal fever or blood-poisoning.—It is important now to inquire where these disease-producing germs find a lodgment. The answer is that they are merely a form of dirt, and that, although they are themselves invisible, they lodge wherever *visible* dirt is in the habit of lodging. In regard to the hands, for example, they are found especially under the finger-nails, and in the grooves at the sides and at the roots of the nails: while, in regard to sponges and instruments, they are apt to lodge in every cranny and crevice, in every interstice of a sponge, in every joint and hinge of an instru-

* An *antiseptic* is an agent employed to kill or to destroy the activity of poisonous germs. *Aseptic* means free from poisonous germs, whether that freedom be obtained by the use of antiseptics, by exposure to heat (as in boiling), by scrupulous cleanliness, or by any other means.

ment, in the interior of a catheter and of an injection-pipe, in the nozzle of the douche apparatus, in every spot of dirt on a macintosh, in every groove of a bed-pan. Hence, every nurse should keep her nails cut very short, in order that they may be the more easily kept clean. Ordinary (marine) sponges, which are difficult to disinfect, should be entirely discarded, pledgets of absorbent wool, which can be burnt immediately after use, being substituted for them.

Whenever the nurse has any duty to perform that involves touching her patient, she should wash her hands and arms thoroughly with soap and hot water, scrubbing beneath and all around the nails with a good nail-brush ; and then, after rinsing off the soap with clean water, dip her hands for two minutes into the antiseptic solution prepared in the manner to be presently described. The hands should be dried on a perfectly clean towel, or, if such a towel is not at hand, should not be dried all. No amount of dipping in antiseptic solutions will be of any avail for purposes of disinfection unless all the dirt and grease have been previously removed from the hands by means of a plentiful use of soap and water and the nail-brush. The same principles are to be applied in the disinfection of instruments, &c. The disinfection of such instruments as are made entirely of glass or metal is best ensured by boil-

ing them for ten minutes in a covered vessel. Such instruments and appliances as cannot be boiled without injury must be carefully washed and then dipped in the antiseptic solution.

The antiseptic douche, being a matter of less vital importance, should be left to the discretion of the medical attendant, to be employed or not as he may direct; but in other respects the nurse is bound, in duty to her patient, to carry out the details of the antiseptic method without waiting for instructions. No doctor can possibly object to a nurse habitually attending to the disinfection of her own hands and of all the various appliances for which she is responsible.

Antiseptics.—Seeing that antiseptics are of such extreme importance, it is desirable to select for use that kind of antiseptic which experience has proved to be the most efficient. Of all antiseptics at present known, the most efficient for the purposes of the lying-in room is perchloride of mercury or corrosive sublimate. The only objection to its use is that it is a powerful poison. This, however, only affects the question of employing it for douching purposes—that is, for *internal* use. There is not, so far as I am aware, any instance on record of ill-effects having followed its *external* use—that is, as a disinfector of the hands and appliances of the attendant, and of the external parts of the patient. In hospitals, a solution of corrosive sublimate is kept ready for

use. In private practice, however, it is inconvenient to have to carry a large bottle about, and corrosive sublimate tablets or soloids are generally used. An antiseptic solution is to be prepared by placing a tablet or soloid in a clean basin, pouring over it a pint of hot water, and stirring with the finger until everything is dissolved. This solution will be of about the strength of one part of corrosive sublimate in one thousand parts of water (1 in 1000).* The basin should be placed on the washstand, by the side of the ordinary wash-basin, ready for use, and the solution should be renewed at least once every day. Immediately before and after performing any duty which involves touching the patient's genital organs, the hands and arms are to be well washed in the manner already described, and then, after having been rinsed from soap, dipped for a full two minutes into this antiseptic solution. Similarly, all vaginal-tubes, syringes, catheters, and other

* Other antiseptics may be used as directed by the medical attendant. Amongst those most in use at present as substitutes for corrosive sublimate solution are solution of the biniodide of mercury (which is said to be as efficient an antiseptic as corrosive sublimate, and which has the advantage of being less poisonous and of not being injurious to instruments) and lysol. The former is supplied in tablets, &c., of the same strength as those of corrosive sublimate; the latter is used in the strength of one teaspoonful to a quart of boiled water.

appliances are to be plunged into the solution for at least two minutes before use. Macintosh sheets, after having been well washed with soap and water, should be wiped over with the solution. For the washing of the patient's external parts, the solution should be warmed and diluted to half the strength (1 in 2000) by adding to it an exactly equal quantity of hot water.

The reason why the soap must be rinsed off the hands before they are soaked in the antiseptic solution is, that soap destroys the antiseptic properties of perchloride of mercury. Another point to note is, that different antiseptics should never be mixed together, as many of them destroy each other's activity.

When a nurse is instructed to douche her patient, she must ascertain from the medical attendant what solution he wishes her to use, and she must take care that no fluid is left in the passages. It is always uncomfortable for a patient to find that fluid is escaping from time to time on to the draw-sheet after a douche has been administered and the bed-pan removed; and, in the case of poisonous substances like corrosive sublimate and carbolic acid, there is the risk of the retained fluid becoming absorbed and giving rise to symptoms of poisoning. * To prevent either

* It is well that a nurse should know these symptoms. In the case of corrosive sublimate poisoning, they are colic, diarrhœa with straining and the passage of blood

of these occurrences, it is necessary to press well down over the region of the womb after every douche, and so to squeeze out of the vagina any fluid that happens to have remained there.

No other antiseptic substance has stood the test of experience in the same way that corrosive sublimate has done. It is on that account that it is here recommended.

In preparing antiseptic solutions there should be no guessing; the quantities should be scrupulously measured.

Precautions necessary after nursing an infectious case or a case of suppuration.—Whenever a nurse has had the misfortune to be in attendance upon a patient suffering from puerperal fever, or from any other illness supposed to be infectious or from a suppurating wound, she must acquaint the doctor under whom she is working and adopt means thoroughly to disinfect herself before going to her next case.

If the doctor does not give detailed instructions as to the method of personal disinfection that he wishes her to adopt, she must render

and mucus with the stools, soreness of the gums, a metallic taste in the mouth, an increased flow of saliva, and sometimes vomiting. Poisonous absorption of carbolic acid is first indicated by a dark green coluor of the urine. This symptom may be followed by vomiting and collapse, with feeble pulse and low temperature, and frequently by an increased flow of saliva.

herself free from infection by carrying out the following rules :—

(1) She must take a warm bath, making plentiful use of soap and washing her hair with lysol solution (one teaspoonful to a quart of warm water).

(2) She must put on a completely clean set of washable clothes, both upper and under. (N.B. —A nurse should always use washable gloves, as well as a washable dress and apron.)

(3) She must cut her finger nails very short, and thoroughly cleanse her hands, especially the furrows beneath and around the nails.

(4) She must scrub her arms and fore-arms for ten minutes, using a new nail brush, with green soap and hot water which has been boiled, changing the water frequently, and must then soak the arms and hands for two minutes in solution of corrosive sublimate (1 in 1000), finally rinsing them in boiled water to free them from the antiseptic. *

(5) She must take care that all her own personal clothing is thoroughly disinfected, such of it as will bear washing must be well boiled in the washing, while the rest must be either stoved or

* In order to prevent their hands from becoming rough as a result of the frequent use of antiseptics, nurses should wash them (when the duty requiring the antiseptic is over) in plain hot water, rub them well with glycerine and water and then dry them. This will keep the hands soft and less likely to harbour dirt than when allowed to become hard and rough.

hung up in a closed room in which sulphur is being burnt and afterwards exposed freely to the air out of doors.

Fresh air and sunshine are the great natural disinfectants.

If these directions are faithfully carried out and the nurse spends most of her time out of doors, she need not be kept from her work more than a week.

CHAPTER VI

The early signs of pregnancy: Cessation of menses — Morning sickness — Changes in the breasts—Enlargement of the abdomen—Calculation of probable date of confinement—Quickening—Management of pregnancy: general rules —Varicose veins—Falling forward of the womb — Obstinate vomiting — Difficulty in passing urine, &c.—Uterine hæmorrhage during pregnancy: its usual significance and temporary treatment (1) During the early months, (2) During the later months — Precautions after previous miscarriages—After-treatment of miscarriage.

Early signs of pregnancy.—Generally speaking, the first circumstance to make a woman suspect that she is pregnant is the non-appearance of her usual monthly discharge. This is called the cessation of the *menses*, and is one of the most constant signs of pregnancy. Cases do indeed, now and then occur in which, notwithstanding pregnancy, the customary flow takes place for the first few months just as usual, and in certain still rarer instances it has been known to appear regularly throughout the pregnancy.

It must be remembered, too, that the monthly flow may fail to make its usual appearance from other causes besides pregnancy; such, for example, as an attack of severe illness, a condition of general weakness, or even strong emotional excitement.

Another very usual symptom of pregnancy is morning sickness. This consists in a feeling of nausea, often accompanied with actual vomiting, experienced most frequently on rising from bed in the morning, but lasting sometimes throughout the day. Many women are affected in this way from the earliest days of pregnancy; others not until about the end of the first month. As a rule, this symptom disappears in the course of the third or fourth month, but in some women it lasts until the end of pregnancy. It often occasions much distress, and sometimes becomes a source of danger to the health, and even to the life, of the patient.

Before pregnancy has advanced very far a sensation of weight and fulness begins to be felt in the breasts. A little later these organs become enlarged; the nipples become fuller and more prominent; a little clear (serous) fluid can be squeezed from them; and the surrounding skin becomes darker in colour. This alteration in colour is perhaps most noticeable in women of fair skin and light complexion, from the contrast it affords to the neighbouring parts, but it is in

those of dark complexion that it is most intense. When these changes have once occurred, the breasts never quite resume their original appearance, so that in subsequent pregnancies the alterations just described are less observable. It must be here noted that the breasts may become painful and swollen, and it may even be possible to press a little fluid from the nipples, without there being pregnancy. Some women, indeed, suffer more or less from these symptoms at every menstrual period.

Enlargement of the abdomen.—About the end of the third month the abdomen begins to be enlarged, and increases in size from that time forwards; by the end of the seventh month, the swelling has reached considerably above the navel. It need scarcely be said that abdominal enlargement may occur from many causes. Not one of the symptoms hitherto mentioned, therefore, is sufficient when taken by itself to prove the existence of pregnancy. When two or more of them are present, however, there is good ground for a very strong suspicion. In cases where it is important that the question should be established beyond doubt, a doctor should be consulted.

Calculation of probable date of confinement.—The usual method of reckoning the probable date of confinement is to learn on what day the last monthly flow ceased, thence to count three months backwards (or nine months forwards)

and add seven days. This is, in practice, the best plan that has been suggested, and will generally give a date within a very few days of the actual confinement, frequently the very day. The following example will show how the calculation is made :—A woman, we will say, was last unwell on March 10; counting three months back from March 10 gives December 10; add seven days and it will give December 17, which is the probable date of her confinement. If it is not the actual day, labour will in all probability take place within three or four days before or after it.

Quickening.—The movements of the fœtus are not perceived by the mother until between the fourth and fifth month—that is, until pregnancy has advanced about halfway. Not very uncommonly the occurrence of the first definite movement of which the mother is conscious is accompanied by a sensation of nausea and faintness. It is this fact which gave rise to the opinion long held, and still prevalent amongst the uneducated, that the fœtus then for the first time becomes living. This opinion finds expression in the word "quickening," the use of which, like that of many other words, has outlived the theory in which it had its origin. As a matter of fact, the fœtus is living from the very commencement of pregnancy, but movements are not felt during the earlier months, because the womb itself is not sensitive, and it is not until the

middle of pregnancy that that organ has enlarged sufficiently to bring it into direct contact with a part fully endowed with sensibility—namely, the inner surface of the abdominal wall. From the moment when they are first perceived, the movements of the child become more and more distinct as pregnancy advances, and constitute one of the most important of the later signs of that condition.

When from any cause it is impossible for the probable date of confinement to be calculated according to the rule laid down in the preceding pages (as, for example, when the date of the last menstruation is uncertain, or when one pregnancy succeeds another so quickly that menstruation has not been re-established in the interval), it may be approximately arrived at by reckoning it as four and a half months after the date of quickening.

Management of pregnancy.—The proper treatment of pregnancy consists for the most part in paying increased attention to the laws of health. A pregnant woman requires a full allowance of rest and should therefore be careful to avoid late hours. She should take plenty of outdoor exercise whenever the state of the weather permits, and, while avoiding all unecessary strain, such as the lifting of heavy weights or reaching things from a height, she may engage in the lighter duties of her house not only without risk but with actual gain of health and

strength. Her food should be taken with the utmost regularity, and should be plain and simple in its nature. Good new milk should form a considerable part of her every-day diet. Stimulants are seldom necessary and should never be taken except under special medical direction.

As the abdomen becomes enlarged it is of the utmost importance that the clothing should not be tight. A foolish regard for appearances has led many a woman into most lamentable mistakes on this point.

During pregnancy the mind should be attended to as well as the body. All unnatural excitement is to be carefully guarded against, and distressing sights are to be especially shunned.

Great care must be exercised to ensure a daily action of the bowels. An excellent plan is to set apart a certain hour of the day for attending to this function whether the desire for relief be urgent or not. Perhaps the most convenient time for most people is immediately after breakfast. By following this simple rule, a habit is established which will go far to obviate the necessity for aperient medicine. When such medicine is required it should be of the simplest possible kind; for example, a compound rhubarb pill, or a small dose of cascara.

During the month preceding the expected confinement, a nurse, if then in attendance, should encourage the patient to take a warm bath (see

page 35), at first every other day and during the last fortnight every day, remaining in the bath about a quarter of an hour.

Piles.—When constipation is associated with piles, the aperient chosen should be a teaspoonful of confection of senna every morning, or a similar quantity of the compound liquorice powder made into a paste by mixing a little water with it: and the patient should be instructed to make her daily visit to the water-closet immediately before retiring to bed for the night. By these means the aching pain which, under such circumstances, is apt to follow every action of the bowels, may be considerably diminished. When, in spite of these precautions, the action of the bowels cannot take place without straining efforts, the patient should use a simple enema of a pint of warm soap and water, as straining inevitably aggravates the tendency to piles. Should the piles become inflamed or unusually painful, the patient must keep her bed for a day or two, and bathe the parts with very hot water from time to time. Where these measures are required, however, the medical attendant should be consulted.

Hygiene of the nipples.—The nipples, especially in first pregnancies, should be gently washed every day during the last month or two with soap and water, and then anointed with a little vaseline or cold cream. This will prevent the secretion from drying and forming crusts on the nipples

and will keep the skin soft and less liable to crack. Cracked nipples are not only a source of intense pain during the act of suckling but are the commonest cause of breast abscess.

If the nipples do not stand out well, an endeavour may be made to draw them out once or twice a day by means of the finger and thumb.

Varicose veins.—When the veins of the legs, thighs, and lower part of the body become swollen and uncomfortable, the patient should lie down as much as possible, and, in the daytime, should wear a flannel leg-bandage.

Falling forward of the womb.—In women who have borne many children the abdominal walls are apt to become relaxed, and the pregnant womb, being insufficiently supported, is then in danger of falling forward, so as not only to produce deformity, but to prove a hindrance during labour. A flannel binder, or one of the abdominal belts sold for the purpose, should in these cases be constantly worn during the daytime.

Obstinate vomiting.—Now and then the vomiting, already alluded to as a common accompaniment of the early months of pregnancy, becomes so troublesome and persistent as to cause serious exhaustion. Under such circumstances medical advice is imperatively needed.

Difficulty in passing urine, &c.—Towards the end of pregnancy it is not at all unusual for there

to be some difficulty in passing urine, and for the desire to pass it to become very frequent. Should these symptoms, however, occur during the earlier months, and especially during the third and fourth, a medical man should be consulted; as they may be due to a displacement of the womb which requires immediate attention.

Troublesome heartburn, diarrhœa, palpitation, persistent neuralgia, salivation, itching or swelling of the external parts, swelling of the face or ankles, all require the personal care of the medical attendant.

Uterine hæmorrhage, or a discharge of blood from the womb, during the *earlier* months of pregnancy, is usually a sign that miscarriage is threatening, and invariably requires prompt medical attention. In summoning a doctor under these circumstances it is always desirable to send a note rather than a verbal message, and to state clearly the nature and urgency of the case. Meantime, in order to restrain the hæmorrhage the patient should lie down, with the head low and with a pillow under the hips; plenty of cool, fresh air should be admitted into the room, and perfect quietness should be ensured. The patient should be warned to avoid any sudden movement, as this may dislodge a clot and provoke fresh bleeding. In case the hæmorrhage continues or becomes very profuse, the nearest doctor should be sent for as well as the ordinary medical atten-

dant. In such cases it will be desirable for the nurse to take a dry napkin or two, and, having folded them in the form of a pad, to press them firmly against the external genitals and hold them there. All the discharges, whether solid or fluid, should be carefully retained for the inspection of the medical attendant.

When flooding occurs during the *later* months, at or after the seventh month for example, it is always a most serious symptom, and a doctor should be summoned without delay, whether the loss be great or small. Such hæmorrhage may be brought about by accident, such as blows or falls, or by the lifting of heavy weights. Where there has been no such accident to account for the bleeding, the probability is that the case is one of *placenta prævia*, in which the after-birth is in an unusual position—namely, over the mouth of the womb, constituting a very dangerous complication. The treatment to be adopted until the arrival of the doctor must be the same as in the case of threatened miscarriage.

Precautions after previous miscarriages.—When previous pregnancies have been cut short by miscarriage, it is very necessary that every possible precaution should be observed to avoid the repetition of such an accident. We know from experience that miscarriages are most apt to take place at those times which, in the absence of pregnancy, would have been the ordinary menstrual

periods. It is on these occasions, therefore, that preventive measures are most needed and most likely to be useful. Every month, then, during the time that the patient would, under other circumstances, have been unwell, she should maintain the recumbent posture, if not in bed, at any rate on a couch. If this simple rule were attended to, many a miscarriage would be averted. A woman known to be liable to miscarriages should, moreover, be especially careful to avoid all their most common causes: she should abstain from exciting entertainments, violent exercise, fatiguing or rough journeys, strong purgative medicines, and exposure to cold. And lastly, as it is very doubtful whether any of the causes I have named are sufficient in themselves to bring on a miscarriage without predisposition thereto from some local or general weakness or disease, it is very desirable that patients who have formed the so-called "habit" of aborting should consult their medical attendant at the commencement of pregnancy with a view to being placed under a regular course of treatment.

After-treatment of miscarriage.—The after-treatment of patients who have miscarried is a most important matter, and one which receives far too little attention. It is no uncommon thing for women of the labouring and middle classes to go about their ordinary duties as early as the second or third day, and some do

not even rest for more than a few hours. Now although this neglect of proper precautions may not result in any immediate ill-effects, it frequently lays the foundation of chronic disease, with much attendant misery and suffering. Whenever nurses have an opportunity, they should tell their patients what there is in store for them if they resume their ordinary duties too soon after such an occurrence. No absolute rule can be laid down as to the length of time during which rest is necessary; it depends so entirely on circumstances that vary in different cases. Thus, in a case of miscarriage during the early months, for instance, where the loss has been small and the health has not suffered, four to six days' absolute rest in bed, followed, during the next ten to fourteen days, by the greatest care and prudence, will, in the absence of special directions from the medical attendant, be generally found sufficient. When the health is unaffected it becomes very irksome to lie in bed for the time here indicated; nevertheless, this rule cannot be neglected without running grave risk.

Should the pregnancy be further advanced, or the circumstances less favourable, a longer period of rest will be required. Where there has been severe or long-continued flooding, a patient is frequently reduced to a condition of weakness quite equal to that following an ordinary confine-

ment. In such cases it is only reasonable to expect the same care to be exercised as after a labour at full term.

On no account should a patient leave her bed, after a miscarriage, so long as any discharge of blood continues. While that persists, it is uncertain whether there may not be some portion of the after-birth or membranes still remaining in the womb, in which case the patient will be liable to further attacks of flooding.

CHAPTER VII

Sketch of the process of natural labour—Duties of a nurse during labour—Articles needed in the lying-in room—Preparation of the bed—Personal clothing of patient—Number of persons in the room—Caution in conversation—Attention to the state of the bladder—Food—Vomiting—Cramp—The second stage—What to do in the absence of the medical attendant—Assisting at the birth—Tying the cord—Breech cases—The third stage—Application of the binder, &c.—Convulsions—Fainting—How to prepare for delivery by instruments.

The premonitory signs of labour.—Towards the latter part of the ninth month, certain changes take place which give warning that labour is not far off. One of the earliest of these is the sinking of the abdominal swelling; the upper end of the womb, which, at the beginning of the ninth month, reaches as high as the pit of the stomach, now falls a little below that point. Great relief to the breathing follows this alteration, as the pressure upon the organs within the chest is thereby greatly lessened. On the other hand, owing to this change in the position of the womb certain new inconveniences

arise from pressure of its lower portion on the various important parts contained in the lower part of the body. Thus, walking becomes more difficult, the bladder requires relieving more frequently, and piles are apt to be formed.

A sign that makes it probable that labour is actually about to commence is the appearance of a slight discharge of mucus streaked with a little blood. This is spoken of, in the lying-in room, as the "show."

The process of labour.—Labour is divided, for the sake of description, into three stages. The first of these is called the stage of dilatation of the mouth of the womb; the second lasts from the moment when that dilatation is completed up to the birth of the child; while the third, or last stage, includes the time from the birth of the child to the coming away of the after-birth, or placenta.

The so-called pains of labour are, in reality, contractions of the muscular wall of the womb. At the early part of labour they are slight, occur at long intervals, and are felt mostly in the lower part of the front of the abdomen; as labour advances, they become longer and more energetic, follow one another more quickly, though always with a certain regularity, and affect chiefly the back and loins. Each pain is comparatively feeble at its commencement, increases in intensity until it reaches its height, and then gradually

passes off. This character, together with the regularity of their recurrence, serves to distinguish pains really due to uterine contraction from colic and other pains which are sometimes mistaken for them.

The bag of waters consists of the membranous coverings of the fœtus, enclosing within them the *liquor amnii*, in which the child floats. During pregnancy this fluid serves to preserve the child from injury; during labour it pushes the membranes before it in the form of a pouch at the mouth of the womb. This pouch acts like a wedge, and helps to open the mouth of the womb. Experience tells us that, when the waters escape early, labour is rendered more tedious. The explanation of this is to be found in the fact that the bag of waters, being round and even, and pressing on the mouth of the womb (*os uteri*) equally all round, the mouth of the womb is opened out more rapidly and easily by this even pressure than by the uneven surface of the presenting part of the child.

As the *os uteri* becomes fully opened, and the end of the first stage draws near, the pouch formed by the protruding membranes is pushed further into the front passage, or *vagina*, and, the pains becoming more violent, the membranes at last give way during a pain more severe than the rest and so the waters escape. In natural labours this usually happens as soon as the mouth of the

womb is fully expanded, and thus the first stage of labour is ended.

The head of the child now begins to pass through the *os uteri*. After a certain time, usually much shorter than that occupied by the first stage, it reaches the vaginal opening, through which first the head and then the body and limbs gradually escape, and so the child is born and the second stage is completed.

The pains of the first stage are called "grinding pains," and are different in character from those of the second stage, which are known as "forcing" or "bearing pains." The cry which is called forth by the pains during the first stage is also different from the groan which escapes from the patient when the pains of the second stage commence. An experienced nurse knows from the alteration in the cry when the first stage is over, and, as the sending for the doctor ought on no consideration whatever to be delayed beyond this period, it is a point of great practical importance.

The pains now become stronger and more frequent: the patient, holding her breath, and bearing down at each return of the pain, becomes hot and flushed, and breaks out into a profuse perspiration. At the end of each pain the head of the child goes back a little, which prevents the strain from being so continuous as to be hurtful and exhausting. Nevertheless, almost every pain

marks an advance upon the one preceding. This slight withdrawal of the head is frequently perceived by the patient herself, and, unless explained to be natural and necessary, is apt to make her think she is not making any progress. There eventually comes a point, however, when the head is so far expelled that it no longer recedes between the pains. The intervals become shorter and the pains more severe, until at last the head slips out altogether, and then the most painful part of the labour is over. The uterus usually now rests for a moment. Then the face of the child makes a little turn towards one of the patient's thighs, generally the right, in order that the shoulders may be brought into such a position that they may pass with the least difficulty. With another strong pain the shoulders are expelled. The rest of the body gives little trouble, for no part of it is as broad as those parts which have already passed.

The contractions of the womb now cease for a short time varying from five to ten or twenty minutes. A little pain is then again felt, and the after-birth and membranes are discharged, along with a small quantity of blood in which a few clots are generally found.

Such is a brief account of the order of events in a perfectly natural labour.

Duties of a nurse during labour. *First stage.*—If the nurse is not already in the house,

the appearance of the first discharge, or "show," is a sufficient warning that she should be summoned. No time should be lost in obeying the call, for many women, especially if they have borne children previously, pass through all the stages of labour very quickly. On arriving at the house, the nurse should make the necessary changes in her dress, and appear before the patient ready for duty. An opportunity will soon occur of forming a judgment as to whether the patient is really in labour, and, if so, how far it has advanced. If labour has actually commenced, the patient will, before long, cease speaking, suddenly grasp the nurse's arm or the back of a chair, or whatever happens to be at hand, and exhibit other signs of suffering. The nurse will know, by the description given on a previous page, whether this is a genuine labour-pain or not, and will observe how long it lasts and the degree of its severity. When it is over, she should inquire when the pains began, how often they return, whether the waters have been discharged, and other similar questions, in order that she may know what kind of message she is to send to the medical attendant with whose address she will have taken care to provide herself and who ought now to be informed that his patient is in labour.

Let it now be supposed that the nurse has made sure that her patient is in labour, and that she has acquainted the medical attendant.

If the bowels have not been freely opened within the last six hours, it will be desirable to give a simple enema of soap and water. The emptying of the lower bowel will facilitate the labour, and will save both the patient and the attendant the annoyance caused by the passing of fæces during a later stage. The next duty of the nurse is thoroughly to wash and disinfect the external genitals and adjacent parts by washing them with soap and water and then swabbing them with corrosive sublimate solution (1 in 2000), by means, not of sponges, but of pledgets of absorbent wool, which are to be immediately burnt. This having been attended to, and the parts thus washed having been protected from fresh external contamination by fixing over them a pad of absorbent wool, the patient may be allowed to sit up in a chair or walk about the room, according to her inclination, provided it is clear that the labour has not yet reached its second stage. If it is night-time, however, it is better for her to remain in bed, in order that she may, if possible, get a few moments' sleep between the pains. During the early stage of labour it is useless for patients to "hold their breath and bear down" during each pain, as they are often urged to do by untrained and inexperienced nurses. It must always be left to the medical attendant to decide when bearing-down efforts have become desirable and ought to be encour-

aged. It is often a great relief to a patient to have her back supported with the flat hand during a pain.

Articles needed in the lying-in room.—In the meantime the nurse should see that all things are in readiness for the actual confinement. The following should always be at hand :

Absorbent wool.
Basins.
Bed-bath.
Bed-pan.
Binders.
Bottle for hot water.
Brandy.
Catheter, glass or metal.
Cyanide gauze in tin.
Douche apparatus with glass vaginal nozzle.
Dressings for the remains of the umbilical cord.
Enema syringe.
Fan.
Feeding-cup.
Flannel apron.
Nail-brush.
Napkins.
Needles and thread.
Nursery, or safety, pins (or blanket pins) for binder.
Olive-oil.
Receiver.
Roller-towel.
Sal volatile.
Scissors (blunt-pointed).
Thermometer, bath.
,, clinical.
Thread for tying cord.
Towels.
Vaseline.
Water, hot and cold.
Waterproof sheeting.
Wood-wool pads or sanitary towels.
Bath, puff-box, toilet powder, * and complete set of clothes for the child.

It is recommended that the nurse should also be provided with the following antiseptic materials,

* The most suitable toilet powder for use in the lying-in room and nursery consists of equal parts of oxide of zinc, starch and boric acid.

to be used according to the instructions in chap. v., unless the medical attendant directs otherwise:

(1) A bottle of corrosive sublimate (perchloride of mercury) tablets or soloids,* with the word "Poison" on the label, and printed directions for using.
(2) A bottle of lysol.
(3) A bottle containing two fluid ounces of glycerine, in which corrosive sublimate has been dissolved in the proportion of half a grain to the fluid ounce. This solution is of about the strength of one part of corrosive sublimate to one thousand parts of glycerine, and is to be ready for the doctor to use for smearing his fingers. It is also used for smearing catheters, the nozzles of enema syringes, vaginal douche-tubes, &c. The bottle should be labelled: "The corrosive sublimate glycerine.—Poison."

The *binder* usually consists of a yard and a half of stout twilled cotton or huckaback towelling, one yard in width, so that when folded lengthwise it has a width of half a yard. In an emergency, a small table-cloth or cotton sheet, suitably folded, answers the purpose very well.

The *receiver* should be of flannel, made of double thickness, and large enough to wrap the child

* One soloid dissolved in a pint of hot water makes a solution of the strength of one part of corrosive sublimate in a thousand. Tablets are usually, but not always, of the same strength as soloids. Soloids can only be made by one firm, and are therefore *uniform* in their strength. Tablets can be made by anybody, and therefore vary.

thoroughly. The flimsy receivers provided in some houses are only fit to protect a doll. A thick flannel petticoat, or a cot-blanket, serves the purpose admirably.

The *thread for tying the cord* must be made ready in the following way: Twelve equal lengths, measuring about a foot, are to be laid side by side and arranged evenly. Six of these lengths are then to be knotted together at a distance of about two inches from each end, and the remaining six in the same way. Having been thus prepared, the threads must be laid on the dressing-table, and a pair of blunt-pointed scissors by the side of them, ready for handing to the medical attendant at the proper moment.

The preparation of the bed is a matter of considerable importance, and ought to be attended to during the early part of labour. In this country women are delivered lying on the left side, with the knees drawn up towards the abdomen. The right side of the bed, therefore, is the one which requires to be prepared, and that part of it near the foot is preferable, because the upper part of the bed is thus kept clean and comfortable for the patient when the labour is over, and because of the help derived from being able to plant the feet firmly against the foot of the bed during the pains.

The mattress being uncovered, a large piece of macintosh sheeting is to be spread over it, and

upon this a blanket and sheet. Over these should come another piece of waterproof sheeting, large enough to reach from the middle of the patient's back to her knees. Upon this upper macintosh, and ready to be removed with it after the labour is over, are to be placed a folded blanket, and, lastly, a folded cotton sheet, both of which should reach well above the hips, so as to absorb the discharges. Two pillows are then to be put in the centre of the bed, so that the patient may lie with the upper part of the body directly across the bed, the hips being as near the edge as possible. The upper bed-clothing during labour should consist of a sheet, one blanket, and a thin counterpane, which, except during the later stages, should so cover the patient that no part but the head and neck is exposed. A long roller-towel should be fastened to the foot of the bed near the patient's feet. Nurses often make the mistake of fixing this to the opposite corner, or even to one of the posts at the bed's head, A very little consideration, however, will make the inconvenience of this arrangement apparent. By grasping the end of a towel attached in the way I have recommended the patient pulls herself still closer to the edge and foot of the bed; whereas, by pulling at a towel fastened to the further side or to the head of the bed, she drags herself away from the very position which it is desirable she should preserve. The same objection, of course, applies to supplying

the place of the towel by means of the hands of an attendant standing on the left side of the bed. This should never be encouraged, as it always has a tendency to displace the patient, and to render it difficult for the medical attendant to give needful assistance.

Personal clothing of patient.—As labour advances, and it becomes necessary for the patient to be placed in bed, she should put on a clean chemise and night-dress, which should be rolled up under the armpits out of reach of the discharges while the soiled chemise and night-dress should be slipped down from the arms and shoulders, and loosely fastened round the waist. The hair should be dressed in two plaits, so that it can be easily brushed every day and cannot become entangled.

The patient's surroundings.—It is very undesirable for a woman in labour to be surrounded by a number of friends and neighbours. In most cases the nurse herself is the only attendant that is really needed, although the presence of one other person should not be objected to, if the patient wishes it.

No nurse should ever allow herself to be teased into prophesying that the labour will be over by a certain hour. If such prophecies turn out incorrect, as they are most likely to do, the patient loses courage and confidence. All gossip is to be avoided, and nurses should be particularly careful to make no reference to their past

experiences, especially such as have been unfavourable. A good nurse will not be at a loss for a few helpful and encouraging words as labour goes on, and will not need to have recourse either to foolish promises or dismal anecdotes.

Management of patient.—Every now and then the patient should be reminded to pass water, lest the bladder should become so full as to hinder labour. This point is often neglected, partly because the attention is so preoccupied that the desire to empty the bladder is scarcely perceived, and partly because, when the waters have broken, the escape of a little gush of amniotic fluid during each pain often misleads the patient, making her think she has passed urine when she has not.

In the early part of labour, when pains are slight and the intervals long, there is no reason for interfering either with the character or regularity of the patient's ordinary meals, provided there exists the desire for solid food. During the later stages, however, it is wise to restrict her to fluids, such as beef-tea, gruel, milk, and tea, and to administer them in small quantities at a time, so as not to overload the stomach and excite sickness.

Patients often ask for a little cold water, and many nurses, influenced by tradition, hesitate to gratify the wish. Pure water in moderate quantity can never do harm, only it must be a "moderate quantity" and not a tumblerful. Small draughts,

frequently repeated, assuage thirst far better than larger quantities.

On no account must stimulants be given, except when expressly ordered by the medical attendant.

Vomiting is a troublesome symptom, and distresses the patient, but its influence on the progress of the labour is in no way unfavourable. Should it, however, be excessive, it is well to give sips of very hot water, or, if preferred, a little iced effervescing water from time to time.

Many patients suffer very severely from cramp during labour. Relief can frequently be obtained by stretching the limb straight out, and at the same time bending the ankle so as to put the muscles of the calf well on the stretch. Gentle rubbing of the affected part with the hand also affords great comfort.

Second stage of labour.—When the pains alter in character, compelling the patient to make efforts to bear down, and the face begins to get flushed and the skin to become moist with perspiration, the nurse may feel fairly well assured that the first stage is over; and if the medical attendant has not arrived, she should request that he be summoned without delay. In the meantime, the patient must be put to bed, and encouraged to bear down and assist the pains. The binder, napkins, and receiver must be spread near the fire in readiness.

Should the child's head press upon the perineum * before the arrival of the medical attendant, the bed-clothes must be turned back so as fully to expose the buttocks and external genitals, and the nurse must try to preserve the perineum from being torn by keeping up firm and steady pressure upon the child's head during the pains. The great point at this stage is to avoid doing too much. Nothing but harm is likely to result from attempts to facilitate the escape of the head by enlarging the opening with the fingers, or by pushing back the edge of the perineum. The attendant's duty is rather to keep back the head until the perineum has had time to stretch, than to hasten its expulsion. In the intervals between the pains the parts should be covered by a clean towel.

If the medical attendant be still absent when the head is born, the nurse must still endeavour to prevent the too rapid expulsion of the child until the shoulders have passed out. The rest of the trunk is delivered without difficulty after the shoulders have passed the outlet. Immediately that the head is born, the nurse should examine with her fingers to ascertain whether the navel-string is coiled around the child's neck. If it is, it must be slipped over its head as quickly as

* The perineum is the part between the opening into the vagina or front passage, and the opening into the bowel or back passage.

possible, lest owing to the stoppage in the circulation of the blood through the cord, the life of the child should be sacrificed. When the head has been expelled, and, if possible, before the child opens its eyes, the eyelids should be carefully wiped with pledgets of absorbent wool soaked in corrosive sublimate solution (1 in 4000)).* Very occasionally, it happens that the child is born with the membranes unbroken; in such cases death from suffocation will occur unless the membranes are quickly torn open and the mouth is freed.

The cry which a child usually utters as soon as it is born helps to fill the lungs with air, and is on that account rather to be encouraged than checked. If the child does not cry, the nurse must examine whether there is any frothy mucus in the mouth which can be cleared away with the finger. It is often useful, also, when breathing is delayed, to turn the child on its face, and give it a few gentle slaps on the back with the flat hand. Unless it is quite evident that the child is dead, or unless, owing to the condition of the mother, there is special reason for haste, the navel-string should not be tied until three or four minutes after the expulsion of the child, by which time the pulse in the cord will either have

* This solution is made by adding three parts of water to one part of the 1 in 1000 solution of corrosive sublimate already prepared.

ceased to beat, or will be felt to be beating more faintly. The object of this delay is to allow time for the breathing to become well established, and to ensure the child's receiving into its body the proper supply of blood. The first ligature must be tied an inch and a half from the navel, and the knot must be pulled tightly two or three times, so as to squeeze out of the way the jelly-like material which surrounds the blood-vessels of the cord; otherwise the vessels may not be closed by the ligature, and bleeding from the stump may occur to a fatal extent while the nurse is attending to the mother. The second ligature is placed an inch or two further from the child than the first one, and the cord is then divided with scissors midway between the two. All this must be done with the parts well in view, lest some other part than the cord be cut in mistake for it.

Breech cases.—Now and then it happens that a nurse has to take temporary charge of cases where, not the head, but the breech, passes out first. Delivery with the child in this position is attended with great danger to the life of the child. The nurse must not hasten matters by pulling, even when the legs are already born; but when the whole of the child's body has passed except the head and arms, and when these parts appear to be arrested, she may endeavour to assist Nature by bringing down the arms from the sides

of the child's head in the following manner:— Passing her forefinger up the child's back and over its shoulder, she draws the arm gently down across the front of the chest by hooking her finger into the bend of the elbow. The same manœuvre is repeated with the other arm. The head will then be the only part remaining unborn. It is possible that, now that the arms have been brought down, the efforts of Nature may be equal to the task of expelling the head. Should the pains, however, prove ineffectual, the nurse may render further assistance by pressing the shoulders down with the fingers of one hand, while with the other hand she grasps both the child's ankles and lifts them gently upwards and forwards betwen the mother's thighs, so as to put the body of the child on the stretch and help the head to roll out. This is greatly preferable to placing the finger in the child's mouth. In all breech cases a warm bath should be in readiness, in the event of the child requiring to be resuscitated.

The child, having now been separated, is to be wrapped in the receiver, with the face alone exposed, and placed out of harm's way on the other side of the bed. The patient must be warned to lie perfectly still, and, as the effort of labour usually has the effect of producing a feeling of chilliness, the nurse should throw a loose blanket over her.

Third stage.—The one or two insignificant pains which accompany the expulsion of the after-birth, generally occur from five to twenty minutes after the birth of the child. Meanwhile, the nurse must provide the medical attendant with a basin or other vessel, previously warmed before the fire, to receive the after-birth, and must have in readiness one or two warm napkins.

Should the medical attendant, however, be still absent, the nurse must place her hand upon the abdomen of the mother and ascertain whether there is another child. If she should find such to be the case, she must convey the news to the mother very cautiously, assuring her that the second child will be born with much less pain than the first. If there is no second child to be felt, the nurse will do well to keep her hand laid upon the mother's abdomen, and gently grasp the womb (*uterus*) which she will easily find. The object of this is not to press out the after-birth (*placenta*) but to prevent the womb from being filled with blood. Presently the uterine contractions will re-commence and the patient will complain that the pains are coming on again. Sometimes after the first of these pains, sometimes after the second or the third, the placenta and membranes are expelled. If not, there will come a moment when more of the cord will be seen to come outside the external parts (*vulva*), and the womb will be felt to rise higher in the

abdomen (to about the navel) and to become more movable. When these signs are observable the nurse must spread out her hand like a fan and gently press the uterus downwards and backwards to expel the placenta and membranes from the vagina where they are lodging and where they may remain, if no help is given, for two or three hours. Meanwhile, she is to hold a suitable vessel in her left hand ready to receive the placenta when it is expelled, taking care on no account to pull the cord.

As the placenta passes out, it is a good precaution to twist it round once or twice, so as to make a wisp of the membranes and bring them all away at the same time. A slight discharge of clotted and fluid blood usually accompanies the termination of the third stage.

When the placenta and membranes have come away, firm pressure with the hand should still be maintained over the uterus, which should be felt to be firm and well contracted. If, instead of this being the case, it is felt to be large, soft, and uncontracted, firmer pressure should be made, so as to excite contraction and prevent flooding, which in such circumstances is greatly to be feared.

Should a gush of blood make its appearance in spite of the pressure, the medical attendant must be sent for immediately, and, if he has left the house, he must be summoned to return at once.

The uterus being firmly contracted, and the

flow of blood having ceased, the thighs and surrounding parts are to be gently sponged with warm antiseptic solution (see chap. v.) and dried by means of a soft warm napkin.

If there has been no flooding, the soiled chemise and night-dress may now be drawn down, and, along with the folded sheet, blanket, and upper macintosh, removed from beneath the patient, who must not be permitted to make the slightest effort while this is being done. Then she may be slowly and gently rolled over on to her back, to allow of the application of the binder. The binder, well aired, must be rolled up to half its length, and the roll passed underneath the lower part of the patient's back. Being caught on the other side, it is then unrolled, and having been smoothed out free from wrinkles, is so applied as to encircle the hips tightly, and the overlapping end is then secured by means of three or four good safety-pins. All this is to be done with as little exposure of the patient as possible. The pillows having been duly replaced, the patient may now be carefully lifted into her usual position in bed ; a clean wood-wool pad or sanitary towel being applied against the vulva, and the clean chemise drawn down into its place.

If, however, there has been any flooding, the patient, after the bandage has been tightened, must still remain undisturbed for some time after the discharge has ceased, the nurse from time to

time examining the pad to make sure that there is no return of the bleeding.

When the medical attendant is present, he will probably prefer to undertake many of these duties himself; at any rate, he, being the responsible person, will give instructions according to the requirements of each individual case, which instructions it will be the nurse's simple duty to obey.

Convulsions, coming on during labour, are always alarming and place the patient's life in great danger. Should they occur before the arrival of the medical attendant no time should be lost in sending for him. In the meantime all that the nurse can do is to keep her patient lying flat down; to see that there is no tight clothing about her head or chest; to prevent biting of the tongue by pushing it, if possible, behind the teeth and placing a cork or piece of india-rubber between the teeth; to admit plenty of fresh air into the room; and, lastly, to restrain any meddlesome interference on the part of the bystanders. It is altogether worse than useless to attempt to force water or stimulants down the throat while the patient is struggling and unconscious. When the fit is over, should the medical attendant not have arrived, the nurse may administer a soap-and-water enema with advantage.

Fainting during labour should always lead to a suspicion that there is some loss of blood going

on, and the medical attendant ought to be immediately summoned, even if there is no blood to be seen externally, for internal bleeding may be going on notwithstanding. The important point to remember about fainting is, that the patient is on no account to be raised up, however much she may desire it. The level posture, plenty of cool, fresh air, sprinkling a little water on the face, and firm, steady pressure with the hand over the uterus comprise all that it is desirable for a nurse to do in the way of treatment. If there is external hæmorrhage, an endeavour must be made to control it in the manner described in chap. vi.

How to prepare for delivery by instruments.—When the medical attendant is about to apply the forceps or other instrument in order to assist delivery, the nurse must see that the patient's bladder and bowels are emptied and must be prepared to sterilise the instrument by boiling, if required to do so. In any case, she must provide a deep jug, or, if possible, two jugs, nearly filled with hot antiseptic solution (either solution of biniodide of mercury or diluted lysol, as corrosive sublimate injures metal). The patient meanwhile must lie on her left side, with the knees well drawn up and the buttocks projecting beyond the bed's edge. The nurse, standing behind the patient, can greatly assist by supporting the buttocks on her right knee.

CHAPTER VIII

Management of the newly born child: the first washing—Care of the eyes—Washing and dressing—Average weight of the newly born—Feeding and feeding-bottles—Aperients—Sleep—Warmth and fresh air—Separation of navel-string—Swelling of the breasts in the newly born—The "thrush."—Convulsions in infants.

Management of the newly born child.—After making the mother comfortable, the next duty of the nurse is to attend to the washing of the child. This should be done, if possible, before the medical attendant leaves the house, in order that he may have an opportunity of examining the child thoroughly. For the washing, a child's bath is required, or a basin at least one foot broad, one foot deep, and two feet long, so that the whole body, with the exception of the head, may be placed in the water for a minute or two. The nurse must also be provided with a piece of soft flannel, some olive-oil, a piece of good, unirritating soap, and, for the dressing, in addition to the clothes, a needle and thread, some safety-pins, and some absorbent wool to dress the

navel-string. Sitting at a convenient distance from the fire, she then proceeds to unfold the flannel wrapper and anoint the child's skin with warm olive-oil wherever it is covered with the white greasy material usually present. The child is then to be washed with soap and flannel, the eyes being carefully cleaned first, then the head, and afterwards the remainder of the body, great pains being taken to cleanse the little wrinkles at the various joints. This having been done, the child is to be put into the water, the temperature of which should be about 98°, and the head supported on the left hand out of the water. In about two minutes the child must be taken out of the water and gently dried with a soft warm towel, the skin being well powdered, and especially those parts near the joints where chafing is most likely to occur—viz., under the knees and armpits, in the groins, and between the thighs. The piece of flannel used for the first washing should be burnt.

The skin having now been well washed, dried, and powdered, the navel-string should be wrapped in absorbent wool, turned upwards upon the child's abdomen, and retained there by means of the flannel binder until its separation.

Care of the eyes.—It has already (page 87) been directed that the eyes of the newly born infant should, immediately that the head is born, and, if possible before the eyelids are open, be carefully wiped with pledgets of absorbent wool

soaked in corrosive sublimate solution (1 in 4000). The object of this is to prevent any of the mother's discharges getting into the child's eyes and setting up a very dangerous form of inflammation, known as purulent ophthalmia, or ophthalmia of the newly born. The following further means of prevention is strongly to be recommended. Immediately after the child has been washed and bathed, a small piece of absorbent wool is soaked in the same solution (1 in 4000) and, the eyelids being held apart with the thumb and finger of the left hand, a few drops of the solution are squeezed from the wool into the eye. The eyelids are then allowed to close, and the edges are dried. A fresh piece of wool is used for each eye. This is repeated twice daily for a week.

It has been found that in the institutions for the blind in London and some other large towns, thirty to forty in every hundred of the inmates owe their blindness to inflammation of the eyes occurring immediately after birth. This is a fact that nurses will do well to remember. They will then realise how important it is for them to do all in their power to prevent so terrible an affliction.

Should the disease appear, it is at once recognised by the redness, swelling and heat of the eyelids, and by the discharge of yellowish white matter from the eye. When these signs are noticed the doctor must be immediately informed,

lest the eyesight be lost. In the meantime, the nurse must proceed at once to keep the eyes as clean as possible by very frequently cleansing away the discharge. It is the discharge which does the mischief.

The cleansing of the eyes is best done as follows :—Separate the eyelids with the finger and thumb, and wash out the matter by allowing a gentle stream of lukewarm water to run between them from a piece of rag or cotton-wool held two or three inches above the eyes. Then move the eyelids up and down and from side to side in a gentle, rubbing way, to bring out the matter from below them ; then wipe it or wash it off in the same manner. This cleansing will take three or four minutes, and it is to be repeated regularly *every half-hour* at first, and later, if there is less discharge, every hour.

The saving of the sight depends entirely on the greatest care and attention to cleanliness. Small pieces of clean rag are better than a sponge. Each rag is to be used once only, and then burnt immediately.

A little vaseline should be smeared along the edges of the eyelids occasionally, to prevent them from sticking together.

Of all the mistaken practices to which ignorance is apt to resort in the treatment of this disease, none is more ruinous than the use of poultices. Let poultices be dreaded and shunned

as the destroyers of a new-born baby's sight. Tea-leaves and sugar of lead lotion are equally conducive to terrible mischief.*

Washing and dressing.—The child must be washed from head to foot on the nurse's lap, night and morning, and during the morning washing it should be placed in the bath for about two minutes. Up to the time of the separation of the cord, which usually takes place about the fourth or fifth day, the use of the bath is optional, but the morning and evening washing is on no account to be omitted. Afterwards, when there is no longer any fear of interfering with the navel, the morning bath should be considered imperative. At every washing, whether with or without bath, the cord is to be dried and re-dressed. Whenever a napkin is removed, the parts protected by it must be well cleansed with soap and water. During the first few days, the child's stools consist of a dark brown sticky substance, known as meconium. Whilst this material is being passed, the parts should be protected by smearing them with olive oil or vaseline after every washing. When the stools have become their natural colour, the parts are to be thoroughly dusted with toilet powder (*see* footnote to page 79)

* These directions are from a leaflet issued by a Committee of the Manchester and Salford Sanitary Association, and are based upon the instructions of the Society for the Prevention of Blindness.

so as to prevent the skin from becoming sore. This rule holds good even if the napkin has only been soiled with urine, though it is of course still more necessary when there has also been an action of the bowels.

It is part of a monthly nurse's duty to wash and dress the child during the time she stays in the house, and she should, for this purpose, be provided with a large, soft flannel apron, which must be carefully dried each time it is used.

The child's clothing should be warm without being heavy, and should fit loosely, so as to allow the organs free play, and the blood to flow unhindered. The body-binder should be of flannel, as it is impossible to prevent its being soiled with the urine, and flannel, when wetted, does not chill the skin so much as other materials. The only pins used about a baby should be safety-pins, and even for them it is better to substitute two or three stitches wherever it is possible.

The medical attendant must always be informed, when he makes his first after-visit, whether the infant has passed urine and whether the bowels have acted: also as to any marks or other peculiarities that may have been noticed. The state of the eyes, too, should be narrowly watched, and any unhealthy appearance or the least sign of discharge at once reported. (*See* pp. 87 and 96.)

Average weight.—The average weight of a healthy full-term child is about seven pounds.

During the first two or three days, the child loses from four to seven ounces; then a daily gain commences so that about the eighth or ninth day it weighs about the same as at birth. During the first two months there is an average weekly gain of five to six ounces; during the third and fourth month, four to five ounces; during the fifth to the sixth month, three to four ounces. By the end of six months the weight is doubled, and by the end of the first year trebled.

Feeding and feeding-bottles.—It is most undesirable to give a newly born child butter and sugar, or other similar compound. For the first twelve hours at least, and indeed for a much longer time, the child will take no harm if left unfed. The proper course, however, is to apply it to the breast a few hours after birth; that is, as soon as the mother has recovered a little from the fatigue of labour. The breasts will probably not be filled with milk for twenty-four or thirty-six hours, or even a little longer; but there is generally a little thick creamy fluid, called the *colostrum*, secreted much earlier than this, of which it is good for the mother to be relieved, and which acts gently upon the child's bowels. The early application of the child to the breast also helps to form the nipples, and renders the flow of milk easy from the first; it teaches the child how to suck, a lesson learnt less readily if it has been previously fed with a spoon; and

lastly, it provides it in the majority of cases with all the food it requires during the first day or two, and obviates the necessity of artificial feeding.

The child should be put to the breast with clock-like regularity. Until the flow is fairly established, the interval should be four hours; afterwards, for the first month, an hour and a half or two hours in the daytime and four hours in the night. In the daytime the child may be awakened at the feeding-hour; in the night it should on no account be disturbed out of its sleep. Many infants will sleep continuously for six hours in the night, and suffer no harm from the long fast.

Important as it is that a child should be fed as often as is here stated, it is no less important that it should not be fed oftener. Young infants very soon learn habits of regularity, and, moreover, their stomachs need rest between their meals, just as in the case of adults, except that, of course, the intervals required are shorter. Many women put the child to the breast whenever it cries, forgetting that the only way in which a very young child can express its sense of discomfort is by crying, from whatever cause the discomfort may arise, and that it is quite as likely that it is crying because it is in pain, or because its napkin wants changing, as because it is hungry. It is important from the first to apply the child to each breast in turn.

When the secretion of milk is long delayed, and

it becomes consequently necessary to feed the infant by hand, the proper food is good cow's milk, boiled, so as to prevent its being a carrier of infection, then mixed with twice the quantity of water, and sweetened. Bread and oatmeal gruel are not fit food for newly born infants; they irritate the stomach and bowels, and cause griping and flatulence. In short, during the first month of life, no other food than the mother's milk or diluted cow's milk should be given, except under medical advice.

When the mother has not enough milk to satisfy the child, nursing may be combined with hand-feeding, which is generally preferable to hand-feeding alone.

In the case of premature infants, the nurse will receive instructions as to the feeding of the child from the doctor in attendance. Failing such instructions she must feed the child more frequently than in the case of a full-term child. If the child cannot take the breast, the mother's milk should be drawn off and administered by means of a bottle if possible, that is, if the child has sufficient strength to suck it from a bottle, if not, it must be given with a spoon.

Where the mother cannot nurse her child, the next best way of feeding it is to obtain a good, healthy wet-nurse, whose child is not much older than the one she is to nurse. The medical attendant should always be consulted in regard to

the health and suitability of a wet-nurse before she is engaged.

It may be that a wet-nurse cannot be obtained, and then hand-feeding becomes necessary. For this purpose the food should as nearly as possible resemble the milk provided by nature in the mother's breast. The following is a good formula: Two tablespoonfuls of boiled cow's milk, two tablespoonfuls of barley-water, one tablespoonful of lime-water, and half a teaspoonful of white sugar. Arrowroot, corn-flour, and bread are all unsuitable at this tender age, and afford far less nourishment than milk.

Now and then a child is found with whom food prepared according to the above formula does not agree, the curdy character of the stools or vomit showing that the milk is only partially digested. In that case, the quantity of lime-water should be increased to two tablespoonfuls. If the infant is very sick, the following will be found useful:

Whey Food.—Take 10 fl. oz. (half a pint) of new milk and dissolve in it two lumps of white sugar; heat this to 100° Fahr.; add two teaspoonfuls of essence of rennet; allow this to stand for ten minutes; break up the curds, and strain through muslin. To two tablespoonfuls of this whey add one tablespoonful of cream. Feed the child every two hours. Sometimes, when the infant is weak and premature, two drops of brandy are added to this food with a good result.

The custom of using feeding-bottles with india-rubber tubes has become exceedingly prevalent. These tubes are difficult to keep clean, and a mere drop or two of milk left adhering to the bottle or tube will often be sufficent to turn the next supply sour. This gives rise to flatulence and indigestion, and produces much sickness and suffering. Another objection to the use of tubes is that nurse-maids are tempted to place children in the cot with the bottle of milk by their side and the tube in their mouth, a practice which is highly objectionable. Feeding-bottles without tubes, and fitted with teats only, have the advantage of requiring to be held in the nurse's hand, and are on every account to be preferred. There should always be two, for alternate use, one being kept under water while the other is in actual use. Immediately after the child has had a meal, the bottle must be thoroughly washed in warm water.

Aperients.—It is an unnecessary and injurious practice to administer castor-oil to the newly born. The first milk (or *colostrum*) from the mother's breast generally relaxes the bowels sufficiently, and, if not, no aperient should be administered except under the advice of the medical attendant.

Sleep.—Children should not sleep in the same bed with an adult, but should from the first be placed in their own separate cot. Attention to this rule would annually save many lives which

are now sacrificed. The number returned every year as having been found dead in bed is astounding. Sometimes both mother and child fall asleep while the child is at the breast, whereupon the child's face gets pressed so closely against the mother's body that both nose and mouth are covered, breathing becomes impossible, and the child is smothered; sometimes fatal asphyxia is produced by the child nestling down in the bed and going to sleep with its head completely covered by the bed-clothes. These dangers are best avoided by letting the child sleep by itself.

During the first month or two a healthy child sleeps the greater part of both day and night.

Children should not be allowed to form the habit of being put to sleep on the nurse's lap, but should be placed in their cot awake, and soothed to sleep there. This is a lesson learnt without difficulty, if taught from the earliest days.

On no account should any kind of soothing medicine be given, except under medical advice. It is permissible, however, if there is much flatulence, for a nurse to administer an occasional teaspoonful of dill water, in the food or otherwise, until the doctor can be consulted.

Warmth and fresh air.—Young babies require to be kept very warm, and yet need abundance of fresh air. Nursery windows should be opened very frequently and the room kept pure

and wholesome. After the first two or three weeks, children should be carried in the arms out of doors every day in fine weather. In winter they should be well wrapped up, and in summer the head should be carefully protected from the rays of the sun. When the weather is wintry or otherwise unsuitable for the child to be out of doors, it should be wrapped up as if going out and carried up and down in another room.

Separation of cord.—When the navel-string is an unusually long time in separating, no force is to be used; all will go on properly if left to Nature. Separation having taken place the navel should be well dusted with toilet powder (*see* footnote to p. 79) and a pad of dry absorbent cotton-wool placed over it. If the process be accompanied or followed by bleeding, the medical attendant should be informed without delay, as children occasionally die from this cause. The doctor should also be told if, after the separation, the navel is found to project more than usual.

Swelling of the child's breasts.—It is by no means an unfrequent occurrence for the breasts of newly born children to become swollen and inflamed, and sometimes they are even found to contain a few drops of milk-like fluid. In either case the nurse must carefully avoid rubbing or squeezing them. The swelling will gradually disappear and the fluid become absorbed under soothing treatment—as, for example, the ordinary

lead lotion; whereas rough manipulations, such as have just been mentioned, increase the inflammation, and are apt to result in the formation of abscess.

The "thrush".—The appearance of a number of little white spots on the tongue, inside the lips and cheeks, and on the roof of the mouth, known in the nursery as the "thrush," ought invariably to be reported to the medical attendant. It can generally be prevented by washing the child's mouth, after each meal, with a clean napkin dipped in warm water, and rubbed over the tongue, the gums, and the inside of the cheeks. The best application when thrush has actually appeared is glycerine of borax, of which a few drops should be placed on the child's tongue several times a day. The movements of the tongue will ensure its reaching the affected parts.

Convulsions in infants are often caused from some fault in the feeding or digestion. They may be relieved by giving the child a hot bath (98° to 100°), and, while the child is in the bath, sponging its head with cold water.

CHAPTER IX

Management of the mother after labour. Treatment during the first few hours—The lochia—Care when first sitting up— Change of room—Going out of doors—Changing the linen —The binder—Avoidance of excitement—Occupation—Diet—The bowels—Flooding—Rigors—Suckling—Sore nipples—Abscess of breast—Dispersion of milk in the event of not suckling.

Management of the mother after labour.—After the patient has been made comfortable in the manner already described, it is above all things desirable that she should have several hours of undisturbed rest and, if possible, of sleep. There used to be a curious notion prevalent amongst nurses that a woman ought not to be allowed to fall asleep directly after delivery. This is altogether a mistake ; sleep is to be encouraged by every possible means. To this end the room should be kept exceedingly quiet, and the blinds drawn down so as to subdue the light. In this way the patient will be best enabled to recover from the exhausting effects of labour. In the meantime, the nurse should keep

an eye on the patient's face, and if she observe that it is becoming unusually pale, she must at once ascertain whether there is any flooding (*see* page 68).

For the first few days the patient will suffer more or less from after-pains, which only require to be brought under the notice of the medical attendant in case they are very severe or interfere with sleep. As a rule, a first confinement is not followed by after-pains.

The proper food to be given directly after labour is a cup of tea, gruel, or warm milk ; but if the patient prefers to wait a little before taking anything at all, there is no harm in allowing her to follow her inclination. When she has had a few hours rest, and has recovered from her exhaustion, the child should be put to the breast. The nipples can be drawn out much better before the breasts become filled with milk than they can afterwards.

Not more than six hours should elapse after labour before the patient is reminded to pass water. She should not be allowed to wait until she feels a desire to do this, for, after confinement, the bladder may be quite full without the patient having any inclination to empty it. At the end of six hours, then, if it has not been already asked for, the slipper-pan should be passed, a little hot water having previously being poured into it and the vessel itself warmed before the fire. If the

patient finds herself unable to use the slipper-pan, she may, except in cases where there has been severe hæmorrhage, be allowed to turn herself gently on to her hands and knees, in which position she will almost always succeed, an ordinary chamber utensil being in that case substituted for the slipper. Should she, even after changing her position, still be unable to pass urine, she must not make forcing efforts, but lie down again, rest a little longer, and then make a further attempt. The patient herself frequently imagines that she has passed urine, when she has not; hence the nurse, knowing this, must not be satisfied without seeing for herself the contents of the vessel after its removal.

Should no urine be passed during the first twelve hours, the medical attendant must be informed, as it will probably be necessary to draw it off by means of the catheter.

The lochia.—For the first few hours after delivery, the vagina and external genital organs are very sore and painful, and the discharge consists of pure blood. Ten or twelve fresh pads are required during the twenty-four hours immediately succeeding labour. On the second day the discharge becomes less, and each day the quantity diminishes, the discharge itself gradually changing from pure blood to a thick greenish-yellow fluid, and lastly to a thin serum, like soiled water. The discharge always has a peculiar smell; if

however, the smell becomes offensive, the medical attendant should be informed. Similarly he should be told if, after having once ceased to consist of pure blood, the discharge should again assume that character. The discharges after labour are termed the *lochia;* they sometimes last only a few days, and at other times continue for three or four weeks. They vary, too, in quantity in different women, even when they are quite natural and healthy. When they have passed through the changes above named, they ought presently to cease, and if, instead of doing so, they continue, and if, especially, they become purulent in character—that is, if they contain matter like that of an abscess—an examination is necessary and the medical attendant must be informed.

On the other hand, it is not very unusual for the lochia to cease rather early and suddenly, and although this often causes alarm both to patient and nurse, it need not do so provided there is no other sign of ill-health, such as shivering, thirst, and feverishness.

Sanitary towels or wood-wool pads should be used in preference to the ordinary napkin, as they are more absorbent and can be burnt immediately after use.

The subject of the washing of the patient and the dressing of her hair is dealt with in an earlier chapter (*see* page 5).

First sitting-up.—After the first three days, provided all is going on favourably, the patient may be propped up by means of pillows or a bed-rest while she is taking food. At all other times, however, she must continue to lie down until the ninth day, when she may be assisted or carried to a couch and allowed to remain upon it for an hour or an hour and a half. At first very little dressing ought to be attempted on these occasions, the patient being protected from cold by wearing a warm dressing-gown, or by having a good blanket thrown over her.

After the midday meal there should be an arrangement by which patient, child, and nurse secure an hour or two absolutely undisturbed, for rest and quiet and, if possible, for sleep.

The length of time the patient is out of bed may by increased day by day; and on the twelfth or thirteenth day she may be fully dressed. The temperature of the room must be regulated most carefully when the patient first leaves her bed, it being much more important for the room to be well warmed then, than during the time she remained in bed.

Change of room.—Should there be a suitable sitting-room on the same floor, the patient may take advantage of it as early as the fourteenth day; the lying-in chamber being meanwhile thoroughly freshened by opening the windows, spreading out the bed-clothing, and leaving the

mattress or bedding uncovered for some hours. If, on the other hand, the only available room is downstairs, it will be prudent to postpone the change for a few days longer.

Going out of doors.—For the first month it is well for patients in this country to be content to remain indoors. If it happens to be mild, bright summer weather, and the patient's recovery has been rapid and satisfactory, the medical attendant may, in any exceptional case, consent to her taking a short walk, or drive, at the end of three weeks.

Changing the linen.—After confinement a patient's linen requires to be frequently changed, both for health's sake and her own comfort. The patient must on no account be allowed to sit up or make any exertion whilst her clothes are being changed; the nurse must take off the soiled clothing by drawing down the sleeves from one arm, gathering up the clothes on that side into a handful, passing them gently over the head, and then drawing off the sleeves from the opposite arm. The clean linen, well aired, must then be put on as the patient lies.

Binder.—The first binder should always be placed next to the patient's skin; after the first twenty-four hours this is a matter of less consequence. Each morning and night during the first week and whenever the binder becomes accidentally soiled, a clean one should be applied with

moderate tightness, the nurse readjusting it from time to time during the day in case it should become wrinkled or loose.

Avoidance of excitement.—The mind of a lying-in woman requires rest equally with the body. No painful news, or other exciting or disturbing influences, should be allowed to reach her. The visits of friends to the lying-in room must be entirely forbidden, except in the case of those who have obtained special permission from the medical attendant.

Occupation.—As the patient grows a little stronger there can be no objection to her occupying herself while in bed, if she is wishful to do so, with a little reading or fancy work.

Diet.—With regard to diet, many medical practitioners have rules of their own, which the nurse must always be prepared loyally to carry out.

It is not now generally thought necessary for lying-in patients to be restricted to tea and gruel for a whole week. When a nurse is left to her own discretion she will find her patients recover their strength most rapidly by being allowed some variety in their food from the beginning. Boiled milk should always enter largely into the dietary of a woman who intends to suckle her child. There is no objection to an occasional cup of tea, with a little biscuit, toast, or bread-and-butter. From the first, beef-tea, chicken-, mutton-, or veal-broth, rice-caudle, milk or oatmeal gruel,

and other simple fluids,* are perfectly allowable. If all is going on well, and the bowels have acted, there is no harm—in case the patient expresses a desire for more solid food—in giving, even on the second or third day, a little sole or whiting, a slice of chicken or tender roast beef, or a mutton chop. The diet, indeed, at this time needs to be nutritious and plentiful, while its kind may safely be regulated very much according to a patient's inclination. No stimulants of any sort, however, must be given, except under medical direction, and the patient, if suckling her infant, will be wise for its sake to avoid vinegar and uncooked vegetables, such as celery, salads, &c.

The bowels.—A nurse should not give opening medicine on her own responsibilty. The medical attendant will order what is necessary and state when it is to be given. Very often, instead of medicines, he will prescribe a simple enema of soap and water.

Vaginal douches are only to be used under medical direction.

Flooding.—Whenever an attack of flooding comes on during the period of lying-in, the nurse must at once send for the medical attendant, stating clearly her reasons for sending in order that he may know what will be required. In the meantime she must unfasten the binder, and make firm pressure with her outspread hand on

* *See* Appendix for some useful recipes.

the womb, which she will have no difficulty in finding, as it will not yet have returned to its natural size and position. The patient must, of course, be kept strictly lying down, with the head and shoulders low, and cool, fresh air must be admitted through the open window.

Rigors.—The occurrence of a shivering fit, especially if it is a severe one, or is followed by others, ought always to be regarded seriously. No time should be lost in acquainting the medical attendant, and the nurse must meanwhile do all in her power to produce a feeling of returning warmth in her patient. With this object a hot bottle should be put to her feet, an additional blanket thrown over her, and a cup of tea administered. This event is so often the sign of approaching illness that, when it has shown itself, the patient should be watched with the utmost anxiety (*see* page 39).

Suckling.—The secretion of milk is not usually established until the second or third day; now and then, however, it makes its appearance earlier. This event is sometimes accompanied with a little constitutional disturbance, which soon subsides. When the breasts are becoming so full and hard as to be painful, great relief will be afforded by fomenting them every few hours, and supporting them, in the meantime, by a breast binder.* This condition will generally soon subside

* The best and most efficient breast binder for this purpose consists of a towel passed straight round the

if the child be applied at regular intervals. Nurses must beware of meddling too much with the breasts, and must especially avoid rubbing them except under special medical direction. The nipples and surrounding parts should be carefully washed each time the child leaves the breast, and should be excluded from the air by covering them with a small piece of linen rag on which a little vaseline or other simple ointment has been spread or which has been moistened with a little lead lotion. Any such application should of course be thoroughly washed off before the child is again applied.

As soon as it becomes clear that the supply of breast-milk is insufficient, it is unwise to keep putting the child to the breast, as this only produces irritation and is very liable to set up inflammation and abscess. Similarly, if the nipples are extremely sore, so that, even when they are protected by a nipple-shield, the application of the child is attended each time with intense pain, or if they are so depressed that neither the efforts of the child nor the cautious

chest over the breasts. The towel is pinned above and below, and in the armpit is then inserted a pad of wool which has the effect of pushing the breast forwards. A pad of wool is also placed between the two breasts to prevent chafing. The loose fold of binder between the upper and lower pins is next to be gathered up, rolled to the requisite tightness, and pinned.

use of the breast-pump will draw them out, it is running a great risk of exciting breast-abscess to persevere beyond twenty-four hours in an attempt to suckle.

Should the nipples become red and swollen, warm boric acid lotion should be applied until the arrival of the medical attendant.

If the nurse notices a patch of redness on the patient's breast, and finds that the skin at that spot is painful and tender to the touch, she should take means to acquaint the medical attendant as soon as possible, and until he arrives should apply warm fomentations to the breast. These signs generally indicate that an abscess has formed, and, when that is the case, it is usual for the doctor to open it with as little delay as possible, lest it spread and become much more formidable.

When the child is still-born, or when, from any other cause, it is not going to be suckled, there is often great anxiety expressed about the dispersion of the milk. It is astonishing, however, how quickly the milk becomes absorbed if left to Nature. If the patient will only submit to the discomfort arising from the fulness of the breasts for a few hours, without insisting on their being partially emptied from time to time by the use of the breast-pump or other similar means, whereby the breasts are stimulated to fresh secretion and the evil is aggravated, she will soon have the satisfaction of finding them softer and less pain-

ful, and will be amply rewarded for her patience. Should the feeling of tension be excessive, it will be best relieved by hot fomentations applied every few hours, the breasts being covered in the intervals with a fold of lint or cotton-wool dipped in a mixture of one part of eau-de-Cologne to three or four parts of water and covered with a piece of oiled silk. If the tension be not excessive, the application for a few days of belladonna plasters, with a hole in the centre for the nipple, is often all that is necessary. In ordering these plasters the nurse should furnish the chemist with paper patterns showing the size required.

Some doctors prefer a covering of lint soaked in a mixture of a drachm of the extract of belladonna in an ounce of pure glycerine.

The dispersion of the milk is facilitated by lessening the amount of fluid in the patient's diet and by the administration of a dose of opening medicine—such as a seidlitz powder and a half; but this is a matter to be left to the discretion of the medical attendant.

APPENDIX

OF SOME USEFUL RECIPES

THE following are a few directions for the preparation of some articles of food which are in frequent request in a lying-in room.

Oatmeal gruel.—Take two tablespoonfuls of oatmeal, and mix them smoothly with a little cold water. Add this to half a pint of cold water in a saucepan, stirring all the time, and boil slowly for at least half an hour. An additional quarter of an hour's boiling will make it all the smoother. It is then to be strained and a little salt or sugar added according to taste.

Boiled bread and milk.—Stale bread should be used for making boiled bread and milk. Small square pieces, cut so as to be of nearly equal size, are to be placed in a basin that has been scalded out. Boil the milk, and the moment it rises pour it over the bread ; cover the basin with a plate for ten minutes.

Beef-tea, first method.—Take one pound of perfectly lean beef, cut it up into small pieces, and put it into a saucepan. Take one mutton shank, without much meat and, having had the bone broken, wash it in cold water, and put it into the saucepan along with the beef. Add to these three pints of cold water, and half a teaspoonful of salt ; allow to simmer over a

gentle fire for two hours and a half. Strain and thicken with vermicelli or arrowroot.

Take the yolk of an egg, beat it up a little and add a pinch of salt. Add this very gradually to a cupful of the hot beef-tea.

Beef-tea, second method (raw).—Put into a cup two ounces of perfectly lean beef, as juicy as can be obtained; pour over the beef, cut into as small pieces as possible, two tablespoonfuls of cold water; stir a little and set aside for twenty minutes. The meat will then have a blanched appearance. Strain off the juice and give it just as it is. Beef-tea made in this way should never be kept longer than an hour and a half.

Restorative gruel.—Take an ounce each of rice, barley, and fine sago; wash each in cold water; put them all into a saucepan, and add a quart of cold water. Set on to a gentle fire, and simmer slowly for an hour and a half. Placing a hair sieve over the bowl, press the thick part through, adding a little of the liquid occasionally. Boil in a saucepan, adding a tablespoonful of sugar for each pint of gruel. Pour into a basin, with four tablespoonfuls of cream, or, if ordered, two tablespoonfuls of port wine.

Strong chicken-broth.—Remove from a chicken the skin, lungs, liver, &c.; cut the meat from it lengthwise in large strips; then take a sharp knife and cut these strips, across the fibres of the meat, into thin shavings, removing as much of the fat as possible; put the shavings into a jar; add one salt-spoonful of salt, and pour over these as much cold water as will just cover them.

Mix up the slices of chicken with the water, so

as to prevent the meat from forming a solid mass in the jar; cover the jar with paper; have in readiness a saucepan containing as much cold water as will reach to one inch from the top of the jar; when the jar is placed in it, simmer gently on a slow fire for an hour and a quarter, the saucepan being lightly covered. The bones of the chicken are meanwhile to be broken up and placed by themselves in a pint of water, to which has been added a pinch of salt, and allowed to simmer gently until the above is ready. Take all the meat of the chicken out of the jar and pound it thoroughly, adding by degrees a little of the liquor from the bones, and a little water. Press the meat through the back of a hair sieve into a bowl, crushing it through with the back of a wooden spoon.

Take a tea-cupful of the broth made from the bones, and, having first removed by means of a piece of paper any grease there may be on the surface, pour this with the thick meat broth into a saucepan; add four tablespoonfuls of cream, or of milk if cream be unobtainable or forbidden, and a little salt and pepper; set the saucepan on the fire, and boil up.

Rice-caudle.—Wash a tablespoonful of rice in cold water; boil half a pint of water in a saucepan over the fire; put in the rice, and boil until it is quite smooth and thick enough to be agreeable. Add some sugar and a little powdered nutmeg or cinnamon according to taste.

Sago and tapioca should be soaked in cold water for five or six hours, and then allowed to simmer in the same water until the grains are clear and jelly-like.

Boiled arrowroot.—Mix a dessertspoonful of arrowroot with a small quantity of cold water; add gradually half a pint of boiling water or boiling milk; then boil for five minutes, stirring the whole time.

When wine or brandy is ordered to be given with any of the above, it should be added when the liquids have cooled sufficiently for the patient to take them, and not before or during the boiling.

Barley-water.—Wash two ounces of pearl barley several times in cold water which must be thrown away. Put the barley into a pan, along with a little white sugar and thin rind of lemon; pour a quart of cold water over it; let it simmer gently for an hour; add the juice of half a lemon, and strain.

Toast and water.—Slowly toast a quarter of a pound of bread, with the crust left upon it, until the colour is deep brown. During the toasting the bread must be frequently turned. It should first be held at a little distance from the fire, and afterwards brought nearer to it. Scald out a large jug, and place the toast in it; pour over it three pints of boiling water; let it stand lightly covered until it is cold, and strain.

Linseed-tea.—Wash two ounces of linseed by putting them in a small strainer, and pouring cold water through it; take off, as thinly as possible, the yellow rind of half a lemon; to the linseed and lemon-rind add a quart of cold water, and allow them to simmer for an hour and a half. Strain away the seeds, and to each half-pint of tea add a teaspoonful of sugar and some lemon-juice, in the proportion of the juice of one lemon to each pint of tea.

Lemonade.—To make good lemonade, two lemons should be used for each pint.

Take off, as thinly as possible, the whole of the yellow rind, avoiding entirely the white layer beneath which gives a bitter flavour to the lemonade ; put the slices of rind into a jug ; add two ounces of lump sugar ; cut the lemons and squeeze the juice through a strainer into the jug ; pour over these a pint of quite boiling water ; allow the jug, lightly covered, to stand aside until the lemonade is cold ; then strain for use.

Rhubarb-water.—Take about eight ounces of rhubarb ; wipe clean with a cloth ; cut up into as thin slices as possible ; put into a jug ; add three ounces of castor sugar, the yellow rind of half a lemon, the juice of one lemon, and a quart of boiling water. When cold, strain for use.

Apple-water.—Take two apples ; peel them ; take out the core, and slice up thinly. Take a small piece of the yellow rind of lemon, just enough to give a flavour, and put this with the sliced apples and a little sugar into a jug ; pour a pint of boiling water over them, and, when cold, strain ready for use.

The commencement of the apple season is the most favourable time for making good apple-water.

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