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SIMPLE LECTURES
ON
NURSING FOR SOLDIERS
IN INDIA

BY
M. R. TRUMAN
Q. A. M. N. S. I.

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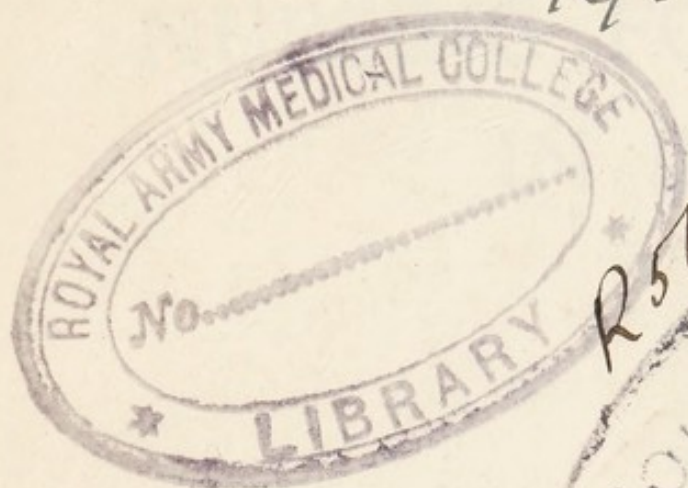
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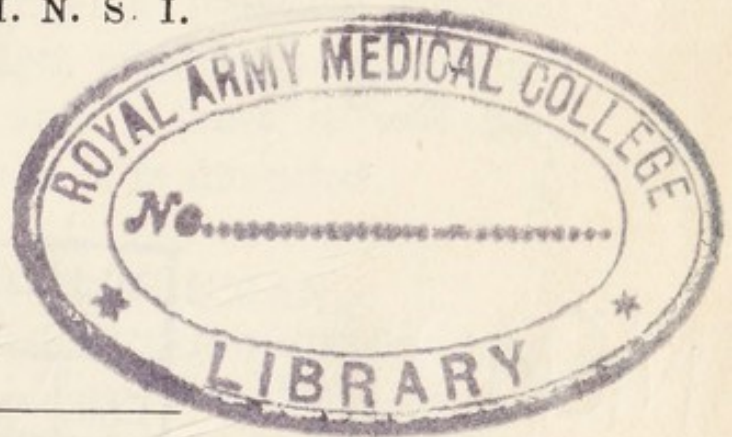


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M. R. THURMAN

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PREFACE.

This little book is written in the hope that it may prove useful to the various classes of soldiers in India, who annually undergo a course of training in nursing duties to enable them to nurse their sick comrades. It does not aim at being a complete treatise in nursing, but I have tried to include in concise form and in plain language some of the most important facts which have helped me, in the hope that they may help others; and as it is almost entirely a record of personal practical experience, I have not considered it necessary to burden the text with references, and I trust it will be of some use to those for whom it is intended.

RANIKHET:
1st October 1911.

M. R. TRUMAN,
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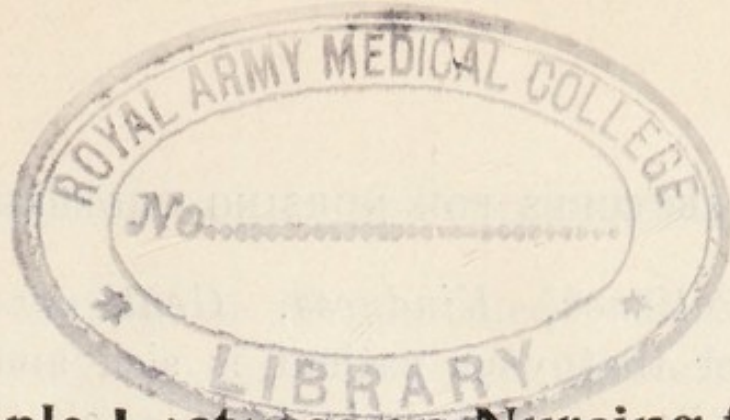


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Simple Lectures on Nursing for Soldiers in India.

CHAPTER I.

NURSING ORDERLIES' DUTIES.

Nursing is a very important and responsible work, and is best done by those who willingly give their services to look after their sick comrades. It is essential that a Nursing Orderly should take an interest in his work and know something of the duties required of him, that is the purpose of this little book.

The first things required of a Nursing Orderly are :—

1. *Obedience* in all things to those who are in authority.

2. *Truthfulness*.—Always own up to having forgotten to carry out an order.

3. *Cleanliness*.—Of your person, always have clean hands, and nails, and change your socks frequently, and of your patients, patient's bed, wards, and all utensils used.

4. *Temperance*.—Absolute sobriety, not having been to the canteen just before coming on duty, especially night duty, because, if you have been taking beer, you are sure to feel sleepy and thus be unfit for your work.

5. *Patience, Kindness, Gentleness.*—Always remember that your patient is sick and therefore has not the same control over himself that a man in perfect health has.

6. *Interest in work.*—Doing willingly all that comes to your hand and not taking offence when corrected.

7. *Conscientiousness.*—Carry out all orders to the letter, when you are alone, as well as when the Medical Officer or Sister are about.

8. *Quietness.*—Going about your work quietly, not slamming doors, putting mugs down with a bang or wearing noisy, or squeaky, shoes.

9. *Observation.*—Noticing all things concerning your patient, and tidiness of wards, etc.

OBSERVATION OF THE SICK.

Reporting on a patient.—A concise and correct report should be kept, in writing, of all patients seriously ill, noting quantity of nourishment taken with the times it is given, amount of sleep, urine and stools passed. The temperature, pulse and respiration must be noted four hourly, what time any medicine has been given, and mention made if any symptoms of importance are noticed.

What to observe.—Note carefully the appearance of the patient and his position in bed. If he looks ill or in pain. Has he a heavy and listless or wide-awake and anxious expression? Is he pale or flushed, or is there a bluish tinge about the

face? Is he well or ill nourished? How he lies easiest in bed, *i.e.*, does he lie on his back or is he obliged to sit up to get ease in breathing? Does he lie with his knees drawn up to relax the abdominal muscles, or does he lie more on one side than the other? Notice the character and how long any pain lasts that the patient complains of, if it is acute, stabbing, throbbing, or a continual dull ache.

Any scars, ulcers, bruises, abrasions, rash, or discolourations about the skin, any swellings, œdema, jaundice, or any profuse perspiration should be reported.

The eyes should be carefully observed and any irregularity in the size of the pupils or tendency to squint be reported.

It is important to note pain in, or discharge from, the ear. In any case of head injury the escape of blood or clear fluid from the ear should be watched for. The presence of sordes on the lips, teeth and tongue should be noted.

It should be observed whether the tongue is tremulous or not, whether clean or furred, dry or moist, or if any ulcers are on it. Any difficulty in swallowing should be noticed, also sore throat, or symptoms of indigestion such as flatulence, tightness of the chest, pain at the pit of the stomach or between the shoulders, or a feeling of sickness after eating.

Blood vomited is known as **Hæmatemesis**. When blood has been retained some time in the

stomach it becomes partially digested and resembles coffee ground in appearance. A patient who has vomited blood must be kept in the recumbent position and all food withheld till he has been seen by the medical officer.

It is important to distinguish between blood brought up from the stomach and blood coughed up from the lungs. Blood from the stomach is generally dark in colour and sometimes partly clotted. It is also often mixed with food and is vomited up. Blood from the lungs is usually coughed up, is a bright red colour, frothy and rarely clotted. Any abdominal pain or distention should be noted.

Stools.—The points to be noticed are their shape, colour, consistency, amount, and whether they contain blood, mucus, pus, undigested food. The frequency of the motions and if there is any pain in passing them. Anything unusual should be kept for inspection.

Urine.—The colour and the quantity of the urine should be observed, also if there is any difficulty in passing. The patient may be unable to pass urine at all, a condition known as Retention of Urine; it should be reported at once, and the patient not allowed to go longer than eight to ten hours without being attended to. The quantity of the urine should be noticed, together with the frequency of micturition. The normal quantity of urine passed in the twenty-four hours should be about fifty ounces, two and a half pints.

Cough.—The points to notice about a cough are its frequency, duration and character. Expectoration varies in character in different diseases and also at different times in the same disease. A specimen of sputum should be kept for inspection, when that is done no disinfectant should be put in the spit-cup.

Hæmoptysis or the spitting of blood, if it occurs in any quantity, it is almost always due to phthisis (consumption). The patient must be kept quiet, in a semi-recumbent position, and small pieces of ice may be given him to suck.

Fits most commonly occur in cases of epilepsy but are frequent symptoms of brain and kidney disease. The length of time and severity of the attack should be carefully noted and in what part of the body the convulsions begin. A patient in a fit must never be left alone. Care must be taken he does not hurt himself and that the tongue does not get between the teeth, to prevent this something should be put between the teeth to keep them apart.

Delirium.—When delirium is present it should be noticed if it is of the low muttering type or active and noisy, also if it is more noticeable during one part of the twenty-four hours than another. It should be observed if the patient picks at the bed clothes.

Sleep.—It should be noticed how long the patient sleeps, and whether his sleep is disturbed or

sound and calm. To encourage sleep the room should be darkened and the light shaded from the patient's eyes. If a patient does not sleep he may be given a drink of warm milk, or some other nourishment if not contrary to instructions, the face and hands sponged, the pillows re-arranged and a hot water bottle placed at the feet if required.

Rigors.—A rigor is a most important symptom to take note of. In some cases a rigor marks the onset of an acute illness. Note should be taken of the duration and severity of the rigor, as well as the time at which it takes place. The temperature of the patient should be taken and hot bottles, hot blankets and hot drinks given during the shivering stage.

Cleansing of mouth and teeth.—In acute illness sordes and mucus collect on the teeth and give them a dirty appearance. In all acute cases of illness the tongue, teeth, roof and sides of the mouth must be cleaned at least every four hours, in ordinary case twice a day is enough. Glycerine and borax, or lime-juice and glycerine is the best mouth-wash to use. To clean the mouth get some small sticks of wood and twist small swabs of absorbent cotton wool to the end, or forceps may be used in the same way, dip the swab into the glycerine and borax and go well round the teeth, removing all the brown mucus on them, then take a clean swab and do the roof of the mouth, tongue and sides of the mouth, being

sure they are left free from sordes. Sometimes the index finger wrapped in a piece of lint is used instead of the swab, but care must be taken not to get the finger bitten and to wash the hands directly the mouth has been finished. All swabs or pieces of lint must be burnt.

Bed-sores.—To guard against bed-sores is one of the most important points in the nursing of helpless patients. Bed-sores result from continuous pressure on a certain spot or spots, also from friction, from moisture, creases in the under sheet or shirt and from crumbs in the bed. Bed-sores due to pressure occur most frequently on the hips, lower part of the back, the shoulders and heels. Those from friction are apt to come on the ankles, inner surface of the knees, or on the elbows and back of the head from frequent movements. Preventive measures consist in absolute cleanliness and the removal of pressure. The back and shoulder and hips must be washed with soap and water and carefully dried at least twice a day; after washing gently rub the different parts with methylated spirits, brandy, rum, or eau de cologne, till the spirit has dried into the skin and all redness disappeared, then powder with oxide of zinc and starch powder. In cases where a patient constantly has a wet bed, it is well to use zinc ointment, in the same way as the spirit. All redness, pimples or darkness of the skin must be at once reported; spirits should never be used in a case where the

skin is broken. A patient should be turned from side to back and then to the other side frequently to prevent pressure in one spot as much as possible. To prevent pressure a ring pad may be used, made of cotton wool shaped into a ring and covered with cloth, leaving a small hole in the middle to prevent the sore part resting on the bed; air cushions can also be used. Water and air beds are of the greatest possible value, and should be used if possible always for paralysed patients.

CHAPTER II.**BED-MAKING.**

To prepare a bed for a new patient coming in.—
Get the bedding from stores. Spread the mat over the wire bedstead, then the mattress, over that place the white blanket, see it is well tucked in over the top of the mattress, tuck in the side and the foot, be careful no corners are left hanging out, place the under sheet in the same way, then the bolster and pillow, then the top sheet and blankets turning the top sheet over the blankets and fold down neatly, tuck up the sides and the foot seeing the corners are well turned under the mattress, and be careful not to get the clothes too tight over the patient's feet. To change the lower sheet, blanket or both of an occupied bed, first loosen all the bed clothes at the top, the sides and the foot of the bed, remove all the upper covering except a sheet or a blanket. Roll up the bottom sheet or blanket lengthwise in a tight roll close to the patient's body, then in like manner the clean sheet and place along the side of the first roll, tucking the free edge under the mattress. Now turn the patient on his side with back towards the rolls, tuck rolls under his back, turn him back on his other side on to the clean sheet, then withdraw the soiled one and pull the clean one into place, see there are no creases left in the clean sheet. To remove the upper bed clothing the top blanket should be grasped in the left hand, and with the

right hand take hold of the sheet to be changed and draw it out at the foot of the bed. A draw sheet and a mackintosh is put in to keep the bed from being soiled. Take a mackintosh and roll it up close to the patient, who has been turned on his side, then a sheet doubled lengthwise roll it over the mackintosh close to patient's back, being careful that the fold is at the top under the patient's shoulders, tuck the sheet in at the side, then roll the patient over on his other side and draw the mackintosh and the draw sheet through, being careful there are no creases left in. A bed for operation is prepared in the same way as any other with the following difference.

Remove the pillows and place a towel in their place, a basin by the side of the bed, and have hot water bottles ready. The upper bed clothes should be turned back to the edge of the mattress, in order that the patient may be quickly put back to bed.

MOVING PATIENTS.

To move a patient from one side of the bed to another.—Stand on the left side, pass the right arm well under the patient's shoulders and back and pass the other hand over the patient's other shoulder, lift gently and move over the upper half of the body; then place the right arm under the back lower down the left hand below the hips and move the lower half of the body over.

To lift to the upper part of the bed, pass one arm obliquely under the patient's shoulders and back and the other arm below the hips and lift towards the head of the bed.

To change the pillows one arm should raise the shoulders and the head, while the other adjusts the pillows. It is always advisable to have two orderlies to lift a helpless patient.

CHAPTER III.

TEMPERATURE, PULSE, RESPIRATION.

The normal temperature of the human body is about 98° F., but a normal temperature varies from 97° F. to 99° F. Fever from 99° F. upwards. Sub-normal 96° F. and below.

A temperature is generally taken in the mouth, or in the axilla (armpit) or in the rectum. Temperature taken in the axilla is generally about one degree lower than that taken in the mouth, while the rectal temperature is usually one degree higher. A clinical or self-registering thermometer is used for taking the temperature of the human body, and registers as a rule from 95° F. to 110° F.

To take a temperature in the mouth, first see that the mercury is shaken down to 95° F. Place the bulb of the thermometer in the patient's mouth under the tongue, the patient must close his lips on and keep them closed all the time the thermometer is in his mouth which should be from one to three minutes. To take the temperature in the rectum, oil the bulb well and introduce it about one inch and a half, leaving it in for one to three minutes. To take the temperature in the axilla, the armpit is first wiped dry, the bulb put in place (be careful to see that the shirt is away from the arm), the arm is placed across the chest, and the thermometer is held thus for three to five minutes.

The mercury must always be shaken down to 95° F. after the temperature has been registered and the thermometer placed in antiseptic solution, resting on cotton wool. Before giving the thermometer wipe it dry and look to see if it is shaken down, put into the lotion after giving it to each patient.

Pulse.—The normal pulse rate is from sixty to eighty beats a minute. To take the pulse place three fingers gently on the wrist, where the radial artery runs, do not use the thumb as you only feel the beats of your own pulse by doing so. The points to be noticed are the frequency, regularity, intermittence, fullness, and strength of the pulse.

Respiration.—The normal respiration is about eighteen to twenty beats a minute. To take the respiration place the hand gently over the stomach and count the number of rises of the chest to the minute.

MEDICINES.

When giving medicines always read the label before pouring out the medicine, shake the bottle, hold the label in the palm of the hand so that all the drips do not run down and make the label unreadable. Measure exactly the quantity to be given, never guess a measure.

Medicine glasses or spoons should always be washed after each dose of medicine has been measured and given. Medicines must be given at regular hours. The best time to give, three times

a day, medicine is 8, 12, 4, and when ordered 4 hourly the same hours day and night, or any combination of hours with equal intervals between.

Pills should be put on the back of the tongue and washed down with water.

Powders are given in the same way as pills, or mixed smoothly in water or milk.

Hypodermic injections.—By this method the drugs to be administered are injected under the skin.

Under the skin is the meaning of both hypodermic and subcutaneous. Absorption into the circulation is very much quicker by this way than any other, the drug taking effect within from one to five minutes. Being such a potent method, it is as a rule used only in cases of emergency, for the relief of pain, to induce vomiting or to stimulate the heart.

Castor oil may be given in warm milk, brandy, lime-juice, coffee, soda-water, peppermint water, etc. Put a little peppermint water, or one of the other things into a medicine glass, run the liquid round the glass, then add the amount of castor oil ordered, then some more of whatever fluid has been used. A medicine spoon (china) should be used for measuring oil.

No medicine of any sort should be given to any patient without orders from the Medical Officer.

Medicines must always be kept on a separate shelf from all poisons and lotions.

Gargles should as a rule be given hot. The patient should take a mouthful of the gargle, throw back the head and gargle with the back of the throat, but should not swallow the gargle.

MEASUREMENT OF MEDICINES.

- 1 Minim equals 1 measured drop.
- 60 Minims „ 1 drachm.
- 8 Drachms „ 1 ounce.
- 20 Ounces „ 1 pint.
- 1 Drachm „ 1 teaspoonful.
- 4 Drachms or $\frac{1}{2}$ oz. equals 1 tablespoonful or
2 dessertspoonsful.
- 8 Drachms or 1 oz. equals 2 tablespoonsful.
- 2 Ounces equal 1 wineglassful.

These signs are used in prescriptions and Roman figures are used :—

M. stands for Minim.

Gr. „ „ Grains.

3 „ „ Drachm.

3 „ „ Ounce.

⊙ „ „ Pint.

gg. or ss stands for half as 3igg. = $1\frac{1}{2}$ ounce.

The following abbreviations of latin words are used in ordering medicines :—

Statin = Immediately.

S. O. S. Si opus sit = If necessary.

P. R. N. Pro re nata = Occasionally.

H. S. S. Hora somni sumenda = At bed-time.

T. D. S. Ter in die sumenda = Three times a day.

B. D. S. Bis in die sumenda = Twice a day.

O. M. Omne mane = Every morning.

O. N. Omni nocte = Every night.

P. C. Post crib = After meals.

A. C. Anti crib = Before meals.

Intra-muscular injection is when the injected drug is pushed much deeper, *i.e.*, into the muscles, as in the intra-muscular administration of mercury.

Inunction means the rubbing of an ointment into the skin. The portion of the skin to be treated should be first shaved if necessary, then washed with soap and water and then dried. This stimulates the circulation in the skin, and enables it more quickly to absorb the medicament. The chief point to be remembered is that the ointment must be rubbed into the skin and not left on it, the part being thoroughly massaged with the palm and the finger tips. It should take twenty minutes to half an hour to rub in the usual dose of mercurial ointment. It should be done by the patient himself when it is possible. If it is done by the Orderly he should carefully wash his hand immediately afterwards.

Emetics.—These are given to produce vomiting, the simplest being a tablespoonful of salt or mustard to a tumbler of warm water. Copious draughts of warm water will frequently produce the same effect. Drugs such as sulphate of zinc, ipecacuanha wine,

sulphate of copper and antimony are also ordered as emetics. Tickling the back of the throat with a feather after the administration of any emetic will often hasten results and sips of warm water taken after ipecacuanha wine render it much more efficacious. An emetic should act in twenty minutes.

CHAPTER IV.

EXTERNAL APPLICATIONS, COUNTER-IRRITANTS, POULTICES, ETC.

Eye Lotions are used for washing away discharges from the eye. They are applied by means of a vessel called an "Eye Bath," by a special irrigator, or by allowing a steady stream from a pledget of cotton wool held about two inches above the eye to run over as much of the inner surface of the lids as possible.

Eye Drops are applied in different ways according to the purpose for which they are used. When they are intended to act upon the conjunctiva, the lids must be everted in the usual way and the drops allowed to fall vertically upon the inner surface. When the drops are used with the object of dilating or contracting the pupil, the lower lid is drawn downwards and one or two drops allowed to fall on the inner surface. Before using the drop bottle, two or three drops should be allowed to escape from the nozzle so that any foreign matter may be washed away.

Counter-irritants are local applications used for the relief of pain or the checking of inflammation, some producing mere reddening of the skin and others actual inflammation.

Mustard Plaster.—Make a paste of mustard and warm water, about as thick as used at table, spread on a thick piece of paper, size of the plaster required, over which place a thin piece of tissue paper or

very thin layer of wool or muslin, turn over the edges, and apply to patient. The mustard plaster should be kept on from 15 to 20 minutes or till the skin is reddened.

Mustard Leaves.—These are more convenient to apply. They should be moistened in warm water before application, the skin having been previously cleaned.

Application of Iodine.—The skin should be washed first and then the iodine applied with a camel hair brush, or a wool swab at the end of a piece of stick. After the first coat has dried a second should be applied.

Liniments are very mild counter-irritants which are rubbed in by hand after the part has been washed.

Blisters.—These may be applied in the form of a plaster or painted on the part. When the plaster is used the part should be well washed and shaved if necessary. Place the plaster in position and fix with strapping.

When blistering fluid is used, the part to be painted, having previously been washed, should be outlined with vaseline to keep the fluid in the space required. Two or three coats are then painted on and the part covered with wool and lightly bandaged.

The blister takes about ten to twelve hours to rise; if it has not risen in that time, apply a fomentation.

The plaster is then carefully removed and the blister which has risen is snipped over the top with a pair of sharp sterilised scissors, and the fluid gently pressed into absorbent wool. Then dress with simple ointment spread on lint a piece of wool and bandage or strapping.

Leeches are used for the relief of pain and for the checking of inflammation. Each leech draws from one to two drachms of blood. The smaller pointed end is the head of the animal.

Before applying a leech, the skin should be well washed and dried and when possible briskly rubbed to bring the blood to the surface. It is important to handle the leech as little as possible. A leech will continue sucking for about three quarters of an hour. It should never be forcibly removed or its teeth may be left in the skin, which would produce a troublesome wound. A pinch of salt on the head will make a leech relax its hold. A piece of wool must always be put on with a bandage after the leeches have been removed and the patient carefully watched until the bleeding ceases.

To apply a leech hold it by the largest end in the folds of a cloth and allow the smaller extremity or head to be directed over the necessary region; when the head has taken hold leave go the body. Another way is to put the leech into a test tube or glass and hold over the place till it takes hold. Sometimes it is difficult to make a leech bite, a little milk or sugar and water spread over the

skin may help, or scratch the skin till it bleeds a little.

Cupping may be either dry or wet. The dry method leaves the blood in the skin, the wet allows it to escape into a cup by means of small incisions.

Special cupping glasses are generally used for this operation and also a special instrument for making the incisions.

Ointments may be applied either spread with a spatula on the smooth side of a piece of lint, or they may be rubbed in with hand, that is to say, by "Inunction."

Lotions.—Evaporating lotions must be applied on a single piece of lint, which should be left uncovered. Other lotions are used by soaking a double thickness of lint in them, squeezing out the excess of moisture but not wringing them dry. They should be covered with jaconet or oiled silk to prevent evaporation.

Poultices are of various kinds, the most common being linseed or mustard.

Linseed Poultice.—Crushed linseed is used to make a linseed poultice. Get ready a piece of linen, the size of the poultice required or tow pulled out very carefully to the correct size. Two basins, a spatula or large knife, linseed meal and boiling water. Warm the basin and the spatula, pour into the basin enough boiling water for the poultice required and quickly stir into the boiling water enough linseed to make a stiff paste, spread quickly over the

linen, turn over the corners and apply as hot as the patient can bear it.

A linseed poultice should be kept on for from two to four hours, and when it is taken off, the chest should always be covered with wool, or a pneumonia jacket put on.

A *jacket poultice* is two poultices one for the back and one for the front of chest with shoulder straps.

A *mustard poultice* is made in the same way as a linseed poultice, only adding about one teaspoonful of raw mustard with the linseed and well mixing.

Charcoal Poultice is used chiefly for offensive wounds.

To prepare get the charcoal, and have it pounded into fine powder.

Make a linseed poultice in the usual way and add to it about two tablespoonsful or powdered charcoal and well mix.

Or the linseed poultice may be made and the powdered charcoal spread over it. The former method is the best way.

Fomentations or Stupes.—The best material for a fomentation is thick soft flannel. Spongio-piline is sometimes used, also lint and absorbent wool. Boracic wool is used for surgical cases. If used for

the relief of pain a fomentation should be changed every few minutes for about half an hour at the time.

The material for the fomentation should be placed inside a towel or wringer and laid across a basin, the ends of the towel or wringer projecting over the sides of the basin. Boiling water is then poured over it, after which it is wrung out dry in the towel, taken out, and applied as hot as the patient can bear it. An ordinary fomentation for pain should be covered with a towel doubled or a piece of a mackintosh to keep in the heat not bandaged. A surgical fomentation should be bandaged on in the way already described.

Turpentine Stupes.—Twenty or thirty drops of turpentine are sprinkled carefully on the flannel after being wrung out of the boiling water.

Opium and belladonna are sometimes applied on stupes, half a teaspoonful (thirty drops) of the tincture being sprinkled on the flannel after it has been wrung out.

Hot water bottles may be of tin, earthenware or india-rubber. For the feet, either tin or earthenware are suitable. For any other part of the body an india-rubber bag is more comfortable and efficacious. All hot water bottles should be protected with thick flannel covers. It must be remembered that the following patients are peculiarly liable to be burnt and great care must be taken when putting hot bottles to the feet of such patients that no

part of them is resting against the bottle : those who are unconscious from any cause, the paralysed, those who are suffering from great pain, the dropsical, the very young and old.

Ice bags are made of various shapes and sizes to suit the part to which they are to be applied. The cup-shaped ice bag is the one generally used. This should be half filled with small pieces of ice, with which may be added a little salt to intensify the cold or sawdust may be added to soak up the water and make the ice last longer.

Pneumonia jacket is made of cotton wool between two layers of gauze, or spongio-piline, it is sewn up on the right shoulder and down the right side under the arm, the left is fastened on the shoulder and down under the left side by means of tapes, so that it can be easily changed. Two jackets should always be kept ready, so that one can dry, while the other is in use.

Inhaler is used to give relief to those suffering with bad throats, bronchial affections and for asthma. The inhaler is filled three-quarters full of boiling water and has eucalyptus or tincture of benzine added as ordered by the Medical Officer. The inhaler is wrapped in a towel and the glass mouthpiece is put to the patient's mouth and the steam inhaled for about a quarter of an hour.

Bronchitis kettle is a special kettle with a long spout, filled with boiling water and has a spirit lamp burning underneath so that the water can

be kept boiling all the time. It is usually used for patients suffering with bronchitis and must be kept going day and night to keep the atmosphere at the same temperature.

ENEMATAS.

An enema is a liquid preparation which is injected into the rectum. It is chiefly given to relieve pain, to stimulate, to feed the patient, or to produce an action of the bowels. Its composition and size vary with the purpose for which it is given. Nutrient enematas and those to relieve pain are usually small in quantity. Those meant to clear out the bowel are large.

Higginson's enema syringe, Reid syringe, a ball syringe, a glass syringe and a vulcanite glycerine syringe are those generally used to give enematas with.

Position of a patient during administration of Enema.—The patient is usually placed on the left side or on the back.

When the enema is given with the patient lying on his left side, the hips must be brought to the edge of the bed and the knees drawn up, a mackintosh covered with a towel is then placed under him, and the bed clothes with the exception of one blanket turned back. The fluid to be injected should be placed in a convenient position, the nozzle of the syringe well vaselined and the fluid pumped

two or three times through the syringe to make sure no air is left in the syringe, being careful to keep the metal end of the syringe well covered with the fluid all the time the enema is being given. The index finger of the left hand should be passed between the buttocks and laid lightly on the anus and the nozzle of the syringe passed below the finger into the rectum, sending it upwards and backwards; be sure to use no force. Five to ten minutes should be taken to give an enema and it should be retained for about five minutes after it has been given. If the patient may not be turned on his side, he should, lying on his back, be brought as near the edge of the bed as possible, the knees drawn up, and the anus found as before with the index finger of the left hand.

Purgative enematas are given to help the bowels to act.

“ Soap and water ” or *“ Simple ” Enema.*—This is made by dissolving one ounce of soft soap in about two pints of water at a temperature of 90° to 100° F. Ordinary yellow soap may be used and a good lather should be made.

A *“ Higginson’s ”* or *“ Reid’s ”* syringe is generally used. The air should be expelled from the tube before it is used. When giving a purgative enema of any sort, a bed-pan should be ready at hand for use.

Turpentine Enema.—Given in the same way as a soap and water enema with about half an

ounce of turpentine added and well beaten up with the soap and water.

Castor Oil Enema consists of about two ounces of castor oil warmed and injected by means of a glass syringe with a piece of rubber tubing on the nozzle, and followed in about fifteen minutes by a soap and water enema. Or the castor oil may be well beaten up in the soap and water enema and given in the usual way.

Olive Oil Enema may be given as above, only about four to six ounces of oil is used.

Glycerine Enema.—This is usually given by means of a special vulcanite syringe holding about two drachms of glycerine.

Starch and Opium.—This is given for the relief of pain or to check excessive diarrhoea. Two ounces of thin starch are mixed with the amount of prescribed opium, and heated to a temperature of 100° F. It is then slowly injected into the bowel by means of a glass syringe and a rubber tube. After the syringe has been gently withdrawn, a towel should be gently pressed against the anus, to help the patient to retain the enema.

Nutrient Enemata.—This is given when a patient is taking insufficient food by mouth or when it is necessary for the stomach to have complete rest. Peptonized milk, beef tea, chicken tea, or Brand's essence and eggs and sometimes stimu-

lants are the usual consistency of a nutrient enemata to be given at a temperature of 100° F. It is made up to about four ounces and given in a glass syringe with rubber tube or ball syringe, and generally ordered to be given four hourly. The bowel should be washed out every morning with an injection of warm boracic lotion.

Suppositories are given as a purgative, to relieve pain, or to feed a patient. They are cone-shaped, and are inserted into the rectum by gently laying the index finger on the anus and passing the suppository up the rectum as far as possible.

Rectal Tube.—A long rectal tube is sometimes passed for the relief of abdominal distention. A stout rubber tube well oiled is passed into the rectum for about seven inches and left in position. The other end of the tube should be placed in a small basin of carbolic lotion. If any gas escapes from the bowel it will be heard bubbling through the fluid.

A *Catheter* is a tube for passing through the urethra into the bladder to draw off the urine. If it is necessary for the doctor to pass the catheter on a patient, a vessel to receive the urine, when it is drawn off, a basin of hot water, carbolic oil and carbolic lotion, a towel and a mackintosh should all be placed ready by the patient's bedside, screens round the bed. The catheters will be seen to by the Assistant Surgeon.

BATHS. SPONGING PACKS.

Baths are given for several purposes, among the more important of which are—

1. To promote cleanliness.
2. To produce perspiring.
3. To reduce fever.

The temperature of a bath should be tested with a bath thermometer, the temperature of baths being :

Cold, 70° F. to 90° F.

Tepid, 80° F. to 90° F.

Warm, 90° F. to 100° F.

Hot, 90° F. to 108° F. or 110° F.

To promote cleanliness warm water is used either in a tub or by sponging in bed.

To give a bath in bed, get a blanket, a basin of warm water, sponge, soap, towel. Remove the patient's shirt, the top and the under sheet, leave one blanket over him, put the washing blanket under him in the way already described, then wash the body in sections, never exposing more than the part being washed, see both finger and toe nails are clean, dry, remove damp washing blanket, replace the shirt, the under sheet, seeing there are no creases, and make the bed properly down again.

To sponge to reduce temperature the water should be cold or tepid.

Get a long mackintosh, sponging blanket, basin of cold water, and sponge. Remove the under sheet

and shirt, place the mackintosh and blanket under the patient in the usual way, have a sheet or blanket over the patient and begin by sponging the head and face, chest, arms, first one leg then the other, then the back, exposing only the portion being sponged, take a long stroke downwards towards the tips of the fingers, and to the feet, dip the sponge frequently into the water, never sponge with a hot sponge. Sponging must be done for about half an hour before the temperature is taken again, the temperature should be reduced at least two degrees before the sponging is stopped.

A cold pack is also given to reduce temperature. Put a mackintosh and a blanket under the patient in the usual way. Get two sheets, previously wrung out of cold water, fold one lengthwise and place under the patient, place the other over the top of the patient tucking in the sides, draw under sheet over the top one, keep wet and cold by frequently changing the sheets, an ice bag or wet towel should be kept over the head. The pulse must be carefully watched. A patient should be left for two or three hours in a cold pack.

A hot pack is given in the same way, only place blankets over the sheets which have been wrung out in hot water 110° F.

Sitz bath or hip bath.—The patient sits in a tub of hot water, feet resting on the floor and a blanket over shoulders and knees. If the patient has to stay in the bath for an hour, hot water

should be added to keep the right temperature going while the patient is in the bath.

CHAPTER V.

OPERATIONS. LOTIONS. DRESSINGS.

Operations.—To prepare a patient for operation the Orderly must always see that the patient has a bath or is washed all over in bed, that the nails are clean and if necessary that the part to be operated upon is shaved. Opening medicine, generally castor oil, is ordered the night before and a simple enema first thing in the morning. No solid food is allowed the morning of the operation, beef tea or Brand's essence is given three to four hours before the operation; if the operation was at 9 A.M., the patient would have the beef tea at 5 A.M. A patient should be put on; if unable to walk, he should be and if walking to the operating theatre, a long coat should be put on; if unable to walk, he should be carried on a stretcher covered with a blanket. The stretcher must always be ready outside the theatre to carry the patient back to bed. All false teeth must be taken out and the patient should pass urine before he goes to the theatre. A draw sheet and mackintosh should be placed on the bed, which should be made up in the usual way with clean linen, hot water bottles should be placed on the bed under the bed clothes, which should be turned over to the edge of the bed, a basin put by the side of the bed in case the patient vomits. After the operation the patient is placed on the bed and covered up, hot bottle applied if required, and an Orderly should

stay by him till he comes round from the anæsthetic, he should have nothing by mouth but sip of hot water for quite two hours after the operation and the Medical Officer will always give orders as regards the feeding of the patient.

Operating Theatre.—The theatre where the operation is to be performed must always be clean and free from dust and well ventilated and there must be plenty of hot and cold water ready.

The operating table must have a blanket and sheet on it, then a mackintosh and sheet and a blanket to cover the patient with, a pillow and a towel, a basin at the side, in case of vomiting, a receptacle for dirty dressing and swabs under the table. The table with the anæsthetic, stethoscope, ammonia, strychnine and hypodermic syringe, tongue forceps and wool at the head of the table on the right hand side. A table with the sterilised instruments on the side most convenient to the operator. All basins must be clean and put ready for use, lotion bottles filled, dressings, bandages, towels, and gowns sterilised. The instruments will be looked after by one especially detailed to do so. An Orderly must never touch a dressing, swab or instruments unless told to do so; if he is asked for them, he must hand the dish, basin or towel which contains the article asked for. When a patient is taking the anæsthetic he sometimes struggles, the Orderly should hold him down by holding the wrists, and

the shoulders and a grip just above the knees, but a patient should never be held down unless struggling. After the operation the Orderly must always watch to see if there is an oozing through the bandage and also watch for hæmorrhage and must report at once, and carry out the instructions given—(See hæmorrhage from wounds), but must not touch the bandage without orders.

Antiseptic lotions used are generally—

Carbolic Acid Lotion.

Perchloride of Mercury.

Boracic Lotion.

Saline Lotion.

These are made into strong lotions in the Surgery and sent to the ward. The Orderly then has to mix water with them to make them whatever strength is required. Saline Lotion is made up of common salt 2 teaspoonsful to 20 oz. water and to make it equal to 1 teaspoonful to the pint, you would add an equal part of water.

Boracic Acid Lotion is made up—

Gr. V to 20 oz. water add equal amount of water to make gr. X to 20 oz. water.

Carbolic Acid Lotion—

1 in 20 means 1 oz. of pure carbolic and 19 oz. of water.

1 in 40 can be made by 1 part of 1 in 20 and 1 part of water.

1 in 80 can be made by 1 part of 1 in 20 and 3 parts of water.

Perchloride of Mercury Lotion—

1 in 500 means 1 gr. of perchloride of mercury to 9 drachms of water.

1 in 1,000 can be made by 1 part 1 in 500 and 1 part water.

1 in 2,000 can be made by 1 part 1 in 500 and 3 parts water.

1 in 3,000 can be made by 1 part 1 in 500 and 5 parts water.

Dressings used:—

Cynide gauze—mauve colour. White gauze.

Absorbent wool—white in colour.

Boracic wool—pink in colour.

White lint. Boracic lint—pink colour.

Strapping or sticking plaster.

CHAPTER VI.

ENTERIC AND OTHER FEVERS.

Enteric Fever is generally contracted from a microbe in water, milk, fruit, and from bad smells and drains.

The disease begins by a man loosing his appetite, feeling generally slack, shivering, fever and sometimes diarrhœa.

The nature of the disease consists essentially in inflammation or ulceration of a portion of the lining of the small intestine, called "Peyers glands"; these ulcers cause the coat of the intestine to get very thin and the least pressure or rub will make them break down and cause hæmorrhage.

Symptoms.—A patient suffering from enteric fever will have a dry tongue, red at the tip and edges and a light white fur in the centre, he will have diarrhœa, or as occurs more often in India constipation. Rose coloured spots will appear on the abdomen and chest about the tenth day and will last two or three days. The abdomen may be rather turmid and tender. The stools are commonly of a light yellow colour and of the consistency of peasoup. The temperature is high, being higher at night than in the morning, and runs high for about fourteen days, and then gradually comes down till about the twenty-first day it reaches normal. The pulse and respirations are quickened and a bronchial cough is often present.

Relapse.—In a certain number of cases about a week to fourteen days from the time the temperature becomes normal, the temperature again begins to rise and fresh rose spots appear with a repetition of the original disease, and this is called a relapse.

In enteric fever, whether mild or severe, certain complications may occur at certain periods, with which the Orderly should be acquainted. In the early stage or during the first ten days serious complications are uncommon, there is sometimes slight bleeding from the bowel and the nose. Death in the early stages of enteric fever is rare.

After the second week complications are more dangerous.

Severe diarrhoea with eight to ten watery stools during the twenty-four hours may cause great prostration.

Hæmorrhage from the bowel should be watched for and quantity, colour, and frequency reported.

Perforation is almost always fatal.

Bronchitis and Pneumonia.—Some bronchitis is commonly present and need not cause anxiety unless severe. Pneumonia is apt to come on rather quickly and may be noticed by short, rapid breathing, pain in the side and blood-stained sputum.

Plugged Veins.—Pain in the groin and the leg will be complained of, the legs swells and should be raised on pillows, kept perfectly quiet and warm.

Bed-sores are very easily produced from the wasting of the tissues, lying in one position, involuntarily passing stools and urine in bed and other causes, and should be guarded against as explained in Chapter I, page 7.

Management.—A successful issue in enteric fever depends in a great measure on careful nursing. The patient should be put to bed, washed all over once a day, kept perfectly quiet, not allowed to sit up in bed, to have any visitors, to read, or to turn about in bed by himself, and on no account to have any food or nourishment, other than ordered for him by the Medical Officer. To have the mouth kept perfectly clean and free from sordes, by means of cleaning the roof and side of the mouth, the teeth and the tongue with glycerine and boracic or lime every four hours. The back should be rubbed with spirit and powder at least twice a day and the patient turned from side to side frequently, and an air cushion, or ring pad used if any redness shows itself.

All stools must be seen by the Orderly and reported upon, all bed-pans must be carefully given and the Orderly must see that the patient is left clean after using it, he must watch to see if a patient suffers from diarrhoea, or constipation, if the stools contain undigested milk, mucus or blood, the frequency, amount and colour of the stools.

Hæmorrhage from the bowel, whether a small or large quantity, must be reported at once, the

colour, and the amount of blood noted and the stool saved for inspection. The patient must be kept perfectly quiet, if the hæmorrhage occurs in the bed the patient should not be touched or moved until ordered by the Medical Officer. All nourishment and stimulants should be stopped, the foot of the bed raised by means of blocks or stones. Sometimes an ice bag is applied to the abdomen over the spot where the ulceration occurs, be sure and put a piece of lint between the ice bag and the abdomen. Ice is given to suck. When the bleeding is fresh it is a bright colour and when old or stale it is dark in colour.

Perforation.—If a patient complains of abdominal pain, it must be reported at once, it might be the commencement of perforation. The symptoms are acute abdominal pain and vomiting, the temperature falls to sub-normal, cold sweats, the feet are cold, the face white and pinched, and great beads of perspiration are always collecting on the forehead, great restlessness, and the pulse becomes rapid and very weak. Stop all foods and stimulants until orders are given; put hot bottles to his feet and sides and have him kept as warm as possible; be very careful that the hot bottles are well covered and do not rest them against the patient or he may get burnt; do not on any account let the patient sit up, and keep as quiet as possible, but do not use undue restraint. Epistaxis or bleeding from the nose should be reported when it occurs. Take away the

pillows and lay the patient down, apply cold to the back of the neck.

Urine.—Amount of urine passed must be noticed, and if there is any retention, that is, if a patient does not pass urine for eight or ten hours, it must be reported.

Sleep must be carefully noted, how much the patient sleeps, whether restless or talking during sleep, if any delirium. If a patient is delirious he must not be left and certainly never tied down in bed. If left he would probably get out of bed and the exertion would most likely kill him.

Bronchitis and Pneumonia are complications which must be guarded against. A patient must not be kept always on his back, he must be turned from side to side and pillows put to his back to prevent him rolling over again.

Feeding.—The nourishment generally given to an enteric patient is milk, diluted with lime water or barley water, whey or peptonized milk. Three or four pints of milk are ordered daily and should be given in 6 oz. feeds two hourly during the day and three hourly at night; all milk, etc., should be strained before being given to a patient. Chicken broth, beef tea, meat, juice, cocoa, Benger's food are given as a patient convalesces, and all must be strained. No solid food, such as eggs, bread, or chicken must be given to any patient even when they begin to have food without particular orders. When the temperature has been normal about 10

to 14 days, a custard is given, it must only be given half at the time and no skin. Bread and milk must be made with crumbled bread and boiled arrowroot made thin. When bread and butter is ordered, thin slices and no crust must be given for four or five days. Chicken mince half at the time and no potatoes. When stimulants are ordered they likewise must be given in small quantities diluted with water or milk.

Feeding is most important in enteric fever, and it is necessary that it should be given regularly and the Orderly must see that the patient drinks it, and that it is not left on the locker and thrown away. During the night a patient requires feeding and will get into the habit of taking his nourishment at regular hours and dropping off to sleep again. If a patient has not been sleeping, he should not be roused, but the feed given as soon as he wakes. An Orderly has to be very careful not to mistake a condition of stupor or prostration for sleep. A patient in this condition must always be roused and persuaded to take his milk; if the 6 oz. is too much for him, he must be given smaller feeds and more often. Any patient not taking his nourishment must be reported at once to Sister.

All fevers are weakening and tiring. A patient with fever must lie still and be fed carefully and regularly with liquid food. Not allowed to sit up or to do anything for themselves.

Malaria Fever has three stages : the cold stage during which the temperature runs up, the hot stage when a patient is thirsty and has a headache, and the perspiring stage. These attacks sometimes come on every day and sometimes every second or third day. When the shivering or cold stage is on, hot bottles and extra blankets should be given, and a hot drink if the patient can take it, to help make the skin act.

Rheumatic Fever.—The patient has acute pain in all joints, which generally are red and swollen. He should be kept between blankets and changed as often as his clothes become damp with perspiration. Not allowed to sit up, and fed regularly. Kept clean and warm.

Infectious Fevers.—Chicken-pox, small-pox, measles, scarlet fever, diphtheria.

All patients suffering with these illnesses must be isolated, kept in bed and warm. Great care must be taken in all stages of convalescence, as many complications may arise from a chill being taken. All clothes and utensils used for the patient must be disinfected. All books and papers should be burnt.

Rules to be observed in nursing enteric and other infectious diseases :—

1. The patient's clothes, sheets, etc., to be put to soak for four hours in a tub of disinfectant as soon as taken off.

2. All mugs, feeders, spoons, medicine glasses, thermometer, bed-pans, urinals, in use for the patient to be marked and kept separate and when not in use to be kept in weak disinfectant.
3. All excretions must be burnt. A cloth or cover must always be used over the bed-pan when carried to and from the ward.
4. A basin of disinfectant must always be kept in the ward, so that an Orderly can disinfect his hand after seeing to a patient.
5. All patients must be kept quiet in bed, not allowed to sit up or have any solid food of any sort.
6. No visitors of any description, except the clergyman to be allowed in the ward without Medical Officer's orders.

Dysentery is inflammation and ulceration of the large intestine and lower bowel and is infectious through the stools. It is often caused by a chill, caught sitting on cold stones after getting heated and under a punkah as the early morning dew falls, by unripe fruit and bad water.

Dysentery requires absolute rest in bed and proper treatment. The patient must be kept in bed and not allowed to get up for anything, must not sit up in bed even to use the bed-pan. He must be kept on his back as much as possible. He must have no solid food unless ordered by the Medical Officer, and is generally kept on milk, which must

be given warm, not hot, with lime water or barley water. Sometimes arrowroot is ordered, it should not be made too thick and should be given warm not hot. Soda-water and lemonade should not be given as the gas in it is likely to give the patient wind and in consequence pain.

A binder and a pad of wool over the stomach is sometimes a very great comfort to the patient. With dysentery a patient often suffers acute pain, which may be relieved by hot fomentations; if fomentations are given, always see the patient has a piece of flannel or cholera belt on after the fomentations are taken off. In dysentery a patient may have as many as 30 stools a day, in consequence of which the rectum may get very sore, so a dysentery patient should always after each stool be washed with warm boracic lotion, well dried and powdered; the use of paper is not advisable. The back also requires great care as the constant taking in and out of the bed-pan is likely to cause bed-sores; the usual precaution should be taken and a wad of wool on the bed-pan will often save a back from going.

The character of a dysentery stool is sometimes very scanty, just a spot or two of what looks very much like the white of an egg tinged with blood; this is mucus or slime, sometimes blood only, and again blood and mucus or slime and again blood, mucus, and fæcal matter; every stool should be seen by the Orderly and reported and a record of the number carefully kept. Sometimes there is

copious bleeding, if so, it must be reported at once. A patient will often get a little fever, his pulse will increase, but his respirations generally remain normal. Great straining occurs at times, this must likewise be reported. Ipecacuanha is very often given in cases of dysentery and requires special attention in giving, *i.e.*—

No food should be given for two hours before and for two hours after the medicine is taken. Generally a sedative draught, such as opium, is given first; about fifteen to thirty minutes before the ipecacuanha pills, a mustard plaster is applied to the pit of the stomach, at the same time that the draught is given. Pills to the number ordered are given when fifteen to thirty minutes have passed since giving the draught; give one at a time; if they can be swallowed without water all the better, if not, give about a tablespoonful of water to each pill. A patient must not sit up after taking the pills, the pillows must be taken away and he must lie quite flat on his back, not moving his hands and head about. A basin should be by his side in case he vomits, and he should have a handkerchief ready to wipe the saliva out of his mouth to prevent sickness. The Orderly must watch him, and carefully note and report if he vomits, and if so how long after he has had the ipecacuanha pills and if any pills are in the vomit. Ipecacuanha is best given last thing at night and early in the morning, then the patient gets all his milk by day, and the draught will help him to sleep at night. All stools must be burnt after in-

spection, if they have to be saved the last one should be kept and the one before thrown away; it is no use putting any number of stools in a pan for the Medical Officer to see, as he cannot tell the character of the stools properly, and by keeping the stools all day it is likely that infection will be spread. All patient's clothes, sheets, etc., must be disinfected.

Diarrhœa is a looseness of the bowel, caused by eating unripe fruit, chill, and constipation. It should not be allowed to go on as it sometimes develops into dysentery.

Cramps and Colic is not an uncommon complaint. Always get the patient to stretch the legs as far as possible. Rub them and apply heat.

For colic apply hot fomentations to the abdomen constantly and keep the patient warm in bed, hot drinks, and keep the stools for inspection.

Cholera is caused by a poisonous germ. The symptoms are cramp, frequent motions like rice water, vomiting, cold, shrivelled body, sunken eyes and pulselessness. Bad cases usually die in about 30 hours. The patient must be put to bed at once, kept as warm as possible by means of hot water bottles and blankets. Rub the hands and legs if cramp is bad, hot fomentation to the abdomen; strong hot coffee or hot lime-juice and water to drink. The patient must not be left. All stools and vomit to be burnt. All clothing disinfected and the Orderly must be most careful to desinfect himself.

CHAPTER VII.

BRONCHITIS, PNEUMONIA, Etc.

Bronchitis is inflammation of the mucous membrane which lines the bronchial tubes, and may be either acute or chronic. In acute cases there is often pain when coughing, the cough has at first a tickling sensation, until expectoration become copious, when relief is gained. The sputum in the early stages is white phlegm, watery and frothy and in the later stages the phlegm increases and becomes yellowish and adheres closely to the side of a vessel. Often the patient will suffer with difficulty in breathing and should be propped up in bed. Feed in small quantities and warm. Keep the patient in bed and out of all draughts and chills. Inhalations and steam kettle are generally given. A spit cup should always be given to the patient, and not cleaned in the morning till seen by the Medical Officer unless orders are given that it is not required for inspection.

Asthma is not dangerous, but is very uncomfortable for the patient who must be kept quiet in a warm atmosphere, breathing is very difficult at times. A steam kettle, and inhalations are given. When bad breathing attacks come on whatever the Medical Officer has ordered must be applied at once.

Pneumonia.—Inflammation of the lung substance is frequently the result of chills, or it may

arise as a complication in the course of rheumatic, enteric or any form of infectious fever.

The temperature in pneumonia is high and often rises to 104° or 105° F., the respirations become hurried, the pulse quickens, and a cough is present which increases the pain. The sputum is reddish brown in colour, due to a mixture of blood with the phlegm and is called rusty sputum. Delirium often occurs especially at night. The patient must be kept absolutely quiet and not allowed to talk more than is necessary, he should always be helped when expectorating, the Orderly holding the cup for him. Keep him off his back as much as possible and turn from side to side, and when both lungs are affected, keep mostly on the side most affected, so that the good lung gets as much chance of doing its work as possible.

all the nourishment ordered, it must be given warm and in small quantities at regular hours. All sleep, stools and urine to be carefully noted and reported, all sputum saved for the Medical Officer to see, unless orders to the contrary are given. The temperature will come down with a big fall about the ninth day and that is called the crisis. The skin will become moist and great exhaustion may follow and the patient becomes cold, hot water bottles, warm milk and stimulants should be given at such a time. All stools and sputum should be burnt. Orderlies should carefully disinfect their hands and all the patient's clothes, etc.

Pleurisy.—Inflammation of the pleura or membrane covering the lung. It may be due to cold or exposure or may be the result of an injury to the chest or from broken ribs.

There is acute pain inside, a sort of stabbing pain, increasing when a long breath is taken. There will be slight temperature and increased respiration. The patient should be kept in bed out of draughts. He is generally kept on light diet.

Phthisis or Consumption.—Keep the patient warm, he should sleep and live out of doors as much as possible. The temperature, pulse and respiration all rise, the temperature will generally go up at night and in all cases should be carefully taken and charted. Phthisis is very infectious, and all things used by the patient should be kept separate, all clothing disinfected, sputum burnt and carbolic lotion kept in the spit cup.

A patient often suffers with night sweats: if this is the case he must have his shirt changed during the night and it must be reported. Plenty of nourishing food is given and an Orderly must notice if it is all taken.

Hæmoptysis or bleeding from the lung is sometimes a symptom of phthisis. The blood comes up in mouthfuls, is coughed up, not vomited, it is bright red and frothy mixed with phlegm. If a patient suddenly coughs up a quantity of blood, lay him down very gently on his side, loosen his clothes, open windows, keep him perfectly quiet,

do not allow him to move or talk, give ice to suck, but nothing to drink, and send for the Medical Officer. The amount of blood coughed up should be noticed and saved for inspection.

Tonsilitis or Sore Throat.—Pain in the throat and difficulty in swallowing. Constant warm gargles, hot fomentation and inhalation. Milk is generally given warm and the patient kept in bed.

PERITONITIS. APPENDICITIS. LIVER.
KIDNEY.

Peritonitis is inflammation of the delicate membrane covering the outer surface of the bowels. The patient has abdominal pain, vomiting and constipation. He must be kept absolutely at rest, not allowed to move about in bed, a pillow put under the knees, the bed clothes kept off the abdomen by means of a cradle, or two or three pieces of bamboo stretched across the bed in shape of a half hoop. Keep the patient warm by means of hot bottles, if necessary, on no account is he to sit up in bed. Take temperature, pulse and respiration four hourly. Small feeds only are given warm and sometimes the patient has to be fed by nutrient enemata.

Appendicitis is inflammation of the vermiform appendix. The patient has acute pain, sometimes vomiting and generally constipation. Keep him very quiet in bed and do not allow him to sit up. Take temperature, pulse, respiration four

hourly. Small feeds are given of milk or whey. Report and save all stools and vomit. Very frequently an operation is necessary to affect a cure.

Jaundice is a disease connected with the liver. It is first noticed as a yellow tinging of the whites of the eyes and the skin of the body, the skin often becomes very irritable. The urine is high coloured according to the degree of jaundice. The stools are light clay coloured, drab or almost white, constipated and unusually offensive. Keep the patient in bed and warm. See he takes his milk. Report and note all stools and urine.

Abscess of the Liver.—The patient has acute pain over the liver generally running up into the shoulder. He has a high temperature and perspires a great deal at night and often has bad shivering fits or rigors, when he should have hot bottles and extra blankets. Fomentations are given to relieve the pain. Milk is generally given, but if a patient can take it he is often given chicken, custard, etc. All the expectoration must be carefully watched, as sometimes the abscess will burst into the lung, the patient will cough up thick yellowish matter called pus. The stools likewise must be watched to see if any pus is passed in them. An operation is often performed to affect a cure.

Bright's Disease or Inflammation of the Kidneys.—Acute Brights is brought on by exposure to cold or from scarlatina or some other acute affection.

It comes on with fever, vomiting, headache, pain in the loins, the urine is scanty, and may be temporarily suppressed and what is passed is high coloured and mixed with blood. The eyelids and face are noticed to be puffy, the legs and ankles will become swollen. The patient must be kept in bed. The condition of the bowels and urine noted and reported. The patient generally perspires very little. All urine for the twenty-four hours must be saved and measured, and the amount passed marked on the chart. Milk is generally given and plenty of barley-water to drink.

Heart.—All patients suffering with heart trouble must be kept in bed and not allowed to have any sudden exertion. The breathing is difficult, sometimes there is acute pain and great swelling of the legs and abdomen. If the patient cannot breathe comfortably lying down in bed he must be propped up with pillows, plenty of fresh air is needful. The Orderly must always be on the watch for a sudden change in a patient suffering with heart trouble and must have ready any remedy the Medical Officer has ordered. The patient is generally kept on low diet.

CHAPTER VIII.

INSENSIBILITY. SUN-STROKE. FITS.

Among the conditions causing insensibility are fainting, shock, concussion of the brain, heat and sun-stroke.

Fainting is a condition due to too little blood in the brain and is caused by exhaustion, heat, bleeding and over-crowded rooms.

To get more blood to the brain lay the patient flat on his back with the head low and the legs raised, sprinkle cold water on the face and apply ammonia or smelling salts to his nostrils to make him breathe, get him out of a crowd into the open air, loosen the clothing about his neck and waist.

Shock is a condition produced by any severe injury or emotional disturbance. It is usual as the result of an injury such as extensive burns or serious mutilation of the body. The sufferer becomes pale and cold, he lies in a semi-conscious and helpless state, the face is pinched, the lips ashy, the temperature sub-normal, pulse feeble, and almost absent. He often breaks out into a cold sweat and may have fits of shivering and be restless. Restoration must be attempted by placing the patient in bed with head low, apply hot water bottles and extra blanket, give hot drinks, but take care the patient is conscious enough to swallow or he may choke.

Concussion is a variety of shock caused by injury to the brain, generally from a blow or a fall on the head.

The symptoms resemble those of shock but are generally accompanied by a more confused and bewildered state or by complete unconsciousness. Treat as for shock.

Sun-stroke—Heat-stroke, which is the result of excessive heat, occurs in hot climates. The patient falls suddenly, is generally insensible, some times in convulsions, the skin feels burning hot to the hand. Carry the patient at once into the shade or the coolest available place. Plenty of fresh air is necessary. Raise the head, remove the clothes from the neck and upper part of the body, douche the head, neck, chest, and spine or the whole body with cold water. Avoid crowding round the patient. Do not give any stimulant. Give an enema of ice cold water and ice bag to the head. The patient must not be left and the temperature must be taken every hour till he has quite come round, and the temperature been normal for some hours.

Fits.—Epileptic fits are due to local or constitutional causes. The patient falls down insensible and has convulsions affecting part or whole of the body, he foams at the mouth and often bites his tongue making it bleed.

Lay the patient on his back with his head slightly raised, loosen the clothes about the neck

and chest and prevent him from biting his tongue by placing something, such as a spatula, handle of a tooth-brush, between his teeth as a gag. Use only enough restraint to prevent him injuring himself and avoid pressing on the chest; it will be sufficient if one man restrains the patient's legs, kneeling by his right side and placing the right arm across the knees to do so. A second Orderly lightly restrains the patient's right arm and a third Orderly the left arm, and also watches the head.

Apoplectic Fits occur mostly in elderly persons. The patient falls suddenly insensible, the face is red, the breathing loud and snorting, the pupils frequently of unequal size.

Raise and support the head and upper part of the body, loosen the clothes about the neck. Apply ice to the head, or cold water where ice cannot be had. Do not give stimulants.

Drunken Fits are caused by drinking a large quantity of alcohol. They occur suddenly, but may not come on for some time after the liquor has been taken. The patient falls into a deep stupor and there is a vacant expression of the countenance, which is sometimes red, the lips are livid and the pupils dilated, the breath smells strongly of liquor. Place the patient on his side with the head slightly raised and do not allow him to lie on his back, or on his face. Loosen the clothes about the neck and induce vomiting. Have ready the stomach pump in case the Medical Officer requires it.

PARALYSIS

Is injury to the nerves which causes paralysis of the parts they supply, *i.e.*, loss of sensation and of the power of movement and the nourishment of the paralysed parts also suffers.

The following are common instances of paralytic affection :—

Hemiplegia or Brain Paralysis.—A stroke on one side or one half of the body.

Paraplegia or Spinal Cord Paralysis affects the lower part of the body from the waist downwards and works upwards till it causes death.

Neuritis or Nerve Paralysis is due to inflammation or disease of the spinal nerves. It generally affects the arms, legs, and the intelligence is often obscured.

In all cases of paralysis rest in bed and plenty of good nourishing food is necessary. Great care must be taken to prevent bed-sores, the bed must be kept perfectly clean and dry as in many cases of paralysis (*Paraplegia*) the patient suffers from loss of control over the bowels and bladder; in such cases a long bed mackintosh must be put between the mattress and under blanket, besides having a drawsheet and mackintosh in the bed. An air bed is advisable as paralysis is often of long duration; if an air bed cannot be had, use an air cushion or ring pads to help keep off the pressure. The Orderly must feed the patient when he is unable to use his hands and report how he

takes his nourishment, if there is any difficulty in swallowing. Any complaint of pain, the state of the bowels and urine must always be reported.

CHAPTER IX.

BURNS. SCALDS. DROWNING.

The immediate treatment of burns.—The damage to the body occasioned by burns varies with the degree of heat applied to the part burnt, the more intense the degree of heat the more severe the burn. It must be remembered that severe burns, more particularly those situated on the head, neck and trunk and those which occupy a great extent of the surface, are likely to be attended from the outset, by “shock,” from which alone the patient may sink unless properly supported. Burning clothes should be put out by laying the person on the ground and rolling him up in a rug, blanket, coat, curtain or anything of this nature that is handy. As the danger to life in severe burns comes from shock, the sufferer’s general condition should receive attention first of all. This is most important. The treatment of shock should be carried out as already described—(Chapter VIII).

Dressing of burns.—The points to be aimed at in all cases are protection of the injured surfaces from the air and relief from pain. A burn or scald must be covered up as quickly as possible, and should on no account be exposed to the air longer than is absolutely necessary. This will be best accomplished by removing burnt clothing which is not sticking to the charred surface, never try to pull it off, but cut it; any clothing, etc., sticking to the burnt surface

should not be touched, but allowed to remain where it is. The burnt part may then be put in or be bathed with warm water to which some bicarbonate of soda has been added, this will float off any charred clothing, etc., sticking to the part. The scorched or burnt surface may be dressed with aseptic vaseline and boric acid powder spread on lint; after the vaseline lint has been applied it should be covered with cotton wool and put in a position most comfortable to the patient. The dressing had best be applied in a number of strips, rather than in one piece, this makes it easier for the sufferer when re-dressing, and also a small surface is exposed at the time when the burn is extensive. Burns should after the first dressing be dressed as seldom as possible. For burns of the face dressings should be applied on a mask of lint or linen, in which holes are cut for the eyes, nose, and mouth.

Scalds and their treatment.—Scalds which are caused by the application of hot fluid to the body should be treated on the same lines as burns. When blisters form they may be pricked to allow the escape of their contents, but every care should be taken to avoid breaking the skin more than possible, dress with vaseline lint as already described. The convalescence from extensive burns and scalds may be prolonged and tedious and after the first ten days generous diet will be necessary.

Suffocation from swallowing very hot water or by inhaling steam.—This is rather a common

accident among children and is always serious. It may become rapidly fatal from the swelling of the upper part of the larynx causing obstruction to the breathing. Treatment in such cases must be prompt and the sufferer constantly watched. Apply fomentations to the front of the neck from the chin to the top of the breastbone. Keep the patient sitting up and give ice to suck. It is best to have the sufferer at once seen by the Medical Officer, as surgical treatment may be required at any moment.

Drowning.—Restoration of the apparently drowned. Send immediately for medical assistance, blankets, stimulants and dry clothing, but begin to treat the patient at once, in the open air whether afloat or ashore. The points to be aimed at are—(1) the removal of all obstructions to the passage of air into the lungs, (2) the restoration of breathing, (3) and after breathing is restored the promotion of warmth and circulation. The efforts to restore life must be persevered in for one or two hours or until a doctor has pronounced life to be extinct. Efforts to promote warmth and circulation beyond removing the wet clothes and drying the skin must not be made till the first appearance of natural breathing, for if the circulation of blood be induced before breathing has restarted, the restoration to life will be endangered.

The steps to be taken should be as follows :—

1. Remove all obstructions to the passage of air into the lungs, therefore clear away any mucus, weeds, mud, etc., from the mouth, nose and throat; open all the clothing so as to expose the chest and waist, draw forward the tongue and keep it projecting beyond the lips either by tying a piece of tape round it, or by holding it with a dry cloth, empty the water out of the lungs and stomach as much as possible; to do this, turn the patient's face downward with a large firm roll of clothing under the chest and stomach, place one of his arms under the forehead, so as to raise the mouth off the ground, press four or five times for four or five seconds each time on the patient's back, thus squeezing the water out of the stomach and chest.

2. Perform artificial respirations by imitating as far as possible **the** movements of natural breathing. This may be **done** by Silvester's method. First give two or three **smart** slaps on the stomach and chest with the open hand.

Silvester's method.—Turn the patient on his back with a roll of clothing under the shoulder-blades, the head being allowed to fall back, kneeling at the patient's head grasp the arms just above the elbow, draw them gently and steadily upwards above the head, and keep them stretched upwards for two seconds; by this means the air is drawn into the lungs by raising the ribs. Then turn down the patient's arms and press them gently and firmly for two seconds against the sides of the chest crossing

forearms over the pit of the stomach. By this means air is drawn out of the lungs by depressing the ribs. Repeat these movements alternately, deliberately and perseveringly about fifteen times a minute, until a spontaneous effort to breathe is perceived; this should be aided by gently expanding and relaxing the chest as above, until the patient's breathing is thoroughly restored. The movements may have to be continued for two hours. It is also advisable if an assistant be at hand, two can work together, that one should kneel at the patient's head and the other astride his hips, facing the patient; when the operator at the head lowers the arms to the sides the second operator presses on the sides and front of the chest, backwards and downwards, throwing all his weight into the movement, while the arms are being raised he can apply friction and warmth to the body. This method is used by the Royal Humane Society.

Further instructions.—Prevent unnecessary crowding round the patient especially if in a room. Avoid rough usage and do not allow the patient to remain on his back unless the tongue is secured. Under no circumstances hold the patient up by the feet. On no account place a patient in a warm bath unless under medical orders.

Artificial respiration must also be resorted to in cases of suffocation either from the fumes of charcoal or choke damp in mining accidents, or from hanging, also in cases of lightning stroke, severe electric shock, chloroform poisoning, etc.

FOREIGN BODIES IN EYES AND EARS.

Foreign bodies lodged in the eye, either on the eye-ball or under the lids, cause severe discomfort and if not quickly removed, give rise to inflammation and great pain.

Treatment.—Prevent the patient rubbing the eye and carefully examine it in a good light by pulling down the lower lid and gently pushing up the upper. If the foreign body is to be seen, it may be removed by gently brushing it away with the folded corner of a handkerchief. Eye-lashes sometimes get turned in and act as foreign bodies.

The patient may himself, by adopting the following simple methods, rid his eye of a foreign body :—

By blowing the nose violently several times in rapid succession, at the same time looking downwards and inwards.

By immersing the face in water and at the same time opening the eye and moving it about to wash out the foreign body.

By taking hold of the edge of the upper eyelid and drawing it downwards and forwards over the lower lid. On letting go of the upper lid, the foreign body may be brushed off it on to the lower lid from which it may easily be removed.

A piece of grit, cinder or iron, sometimes becomes embedded in or sticks on the surface of the eye-ball, causing great pain and intolerance of light. Such a foreign body may be recognised as a dark

spot on the clear part of the eye-ball. Its removal should be left to a medical man. Pending his arrival, or until assistance can be obtained, the eye should be filled with olive oil and a pad of cotton wool or clean folded handkerchief bandaged gently over it.

Lime in the eye.—This is a very serious accident and may cause rapid destruction of the eye. Remedies must be prompt. Fill the eye at once with olive or castor oil. Remove the pieces of lime as quickly as possible and with the greatest care and gentleness, but make no attempt to remove any particles which have become adherent to the eye-ball, this should be left to the Medical Officer.

By directing a stream of a warm solution of vinegar and water (about 1 tablespoonful of vinegar to $\frac{1}{2}$ pint water) on to a piece of sticking lime it may be washed off. Under no circumstances should force, ever so slight, be used while trying to remove pieces of lime.

Foreign bodies in the ear passage.—In these cases you should at once bring the patient to hospital or send for a medical man. Never attempt when you cannot see the foreign body to probe it, or even syringe the ear. If an insect gets into the ear passage and becomes fixed pour in some warm olive oil so as to float it out, but it is best in all cases to wait until a doctor can examine the case. If there is great pain, fomentations may be applied to the ear and side of the head.

CHAPTER X.**FRACTURES. SPLINTS. DISLOCATIONS.
SPRAINS.**

When a bone is broken it is said to be fractured.

The causes of a fracture may be injury or disease.

Varieties of fractures are described as—

1. Simple fracture.
2. Compound fracture.
3. Comminuted fracture.
4. Impacted fracture.
5. Green stick fracture.

A simple fracture.—When the skin over the bone is not broken the fracture is said to be simple.

Compound fracture.—When a wound through the skin and soft parts leads down to the break in the bone, the fracture is said to be compound.

Compound fractures are much more serious than simple fractures.

Comminuted fracture.—When the bone is broken in several pieces or even pulverised.

Impacted fracture.—When the bone is broken and one fragment is driven into and firmly fixed in the other fragment, the fracture is said to be impacted.

Green stick fracture.—When the bone is badly bent, it is said to be a green stick fracture and generally occurs with children.

The signs of a fracture—

Loss of power in the limb.

Distortion and swelling.

Pain, tenderness and increased mobility when handled.

Inequality in length between the injured and the sound limb when measurements are taken.

The hand placed on the bone at the injured part may detect some irregularity and perhaps feel a grating sensation (crepitus) caused by the rubbing together of the fracture ends.

Union of Bone.—A fractured bone is mended by nature on the same principles as an ordinary wound of the soft parts is healed, only longer time is required. It takes from six weeks to two months for a large bone to unite, whereas a small bone, such as a finger bone, about fourteen days. To favour the healing the ends of the bones must be brought close together and kept at rest, and are kept in position and at rest by means of splints.

A person with a fracture, especially of the lower extremity, should remain, if possible, where he is until medical assistance can be obtained, the limb meanwhile being kept at rest. If it is necessary for him to be moved, the greatest gentleness and care should be exercised and the fractured limb kept from further injury by firm support. If the upper limb be injured, it should be well supported by a sling in a comfortable position and the patient should walk or be moved home.

In the case of fracture of the lower extremity, some form of extemporised splint should be used to

prevent movement of the broken ends and the possibility of a simple fracture becoming a compound fracture. For this purpose a stick, umbrella, or thin firm board tied on to the side of the leg by pocket-handkerchiefs will suffice; always tie the pocket handkerchief one above and the other below the fracture. The injured and sound limb may then be tied together and the patient removed on a stretcher or shutter.

Removing the clothing.—In removing the clothing the greatest gentleness must be used. In the case of a fractured thigh or leg, the outside seam of the trousers should be split right up. Braces must be unfastened all round. There must be no dragging on taking off the clothing, the leg of the cut trousers should then be very carefully drawn to the inside of the injured limb and the leg of the trousers on the sound limb can then be pulled off. The sock should be cut off, after the boot has been slit up the back seam, fully unlaced and removed. In fractures of the arm the coat seam and shirt must be ripped up and the coat sleeve removed from the sound limb first.

Splints.—Splints consist of supports made of some unyielding material (wood, iron, perforated zinc, paste-board, etc.) varying in length, width and shape with the part to which they are to be applied. Before being applied they should be padded with some soft material, to protect the limb from the hard surface and edges of the splint.

Pads for splints.—These are usually made of soft linen or calico, stuffed with cotton wool mixed with tow, or with tow alone. Care must be taken that the pads are quite even and contain no lumps of tow or wool, which should be well teased out. Pads should be large enough to protect the limb from the edges of the splints. Some splints are covered with jaconet to keep them clean and the pads dry. They are bound to the limb by bandages or tapes, so that when fixed the limb is protected and held firmly in its proper position.

There are special splints for certain parts of the body. For the thigh bone, Liston's long thigh splint; for the lower part of the thigh bone, McIntyre splint; for the leg the same splint, or a metal back splint, or back splint with footpiece. For the humerus or upper arm an angular internal splint, and a short straight splint. For the radius and ulna, forearm, two side splints of sufficient length to extend from the elbow to the fingers.

Fracture bed.—For cases of fracture it is necessary that the bed should be even and firm so that in a case of fractured thigh or leg, for instance, the limb can be kept quite straight and immovable. Boards are also used for this purpose, these can be placed under the limb, leaving the rest of the bed free. A six foot table can be used.

Sand bags.—Bags filled with sand are very useful to steady a limb. They are placed on each side to prevent movement and to steady it.

Tight bandages.—After the splint has been applied there may be much pain and swelling of the parts, due to the bandages being too tight. The Orderly should at once inform the Sister or Assistant Surgeon.

Plaster of Paris splints.—For a plaster of Paris splints there are required one or two pounds of fresh plaster of Paris, which after the tin has been opened should be put in the sun or near the fire, for about twenty minutes, one or two flannel bandages, three or four loose wove or muslin bandages, two clean basins, one for the dry plaster and the other for cold water, a newspaper is spread under the limb to protect the bedding.

Method of applying.—The muslin bandages are soaked in water, the flannel bandage wrapped round the limb, which is then covered by one layer of the wet muslin bandage, a handful of dry plaster is taken, dipped into the cold water and smeared on, another wet bandage is applied and more plaster, and so on. The limb is kept carefully in position till the plaster sets. To remove the plaster of Paris from the hands wash in a little soft sugar and water.

Dislocations occur as the result of violence by which there is a displacement of the bones at a joint; they are usually accompanied by some tearing of the ligaments or muscles which surround the joint. There is more or less deformity and the

movements of the joint are impossible, or much interfered with and are accompanied by great pain.

Dislocation may occur at almost any of the joints, but some are more easily displaced than others owing to the shape of the articular surface. A considerable amount of technical knowledge is required to recognise the nature of these injuries, and they should be seen by a Medical Officer as soon as possible, in order that they may be reduced at an early stage. Swelling commonly succeeds these accidents and after reduction it is necessary to keep the parts at rest by bandages and splints.

Sprains are the result of the forcible overstretching of the muscular and ligamentous tissues, and are accompanied by severe pain, increased on movement. Inability to bear weight on the limb, swelling round the joint. Absence of special signs of fracture or dislocation. Sprains require, as a rule, rest and the application of evaporating lotions.

WOUNDS AND HÆMORRHAGE FROM WOUNDS.

Wounds may occur from various causes and present endless variety of shape and position. Open wounds are usually classified under the following headings :—

1. *Incised*.—These wounds are made by sharp-cutting instruments, such as a knife, razor or sword. They have clean cut edges, and their length is usually greater than their depth. They

frequently bleed freely, because the vessels are cleanly divided. Bruising of the margins of the incision is absent and when properly treated, they generally heal rapidly, leaving simply a line-like scar.

2. *Lacerated*.—Such injuries are caused by blunt instruments, by machinery, by wheels of vehicles or by fragments of shells.

As its name implies, the wound usually has ragged edges and there may be actual loss of substance. They do not as a rule bleed much, because the vessels are torn rather than cleanly divided. Bruising of the margins of the wound may occur and they do not usually heal so rapidly as incised wounds and the resulting scars are more marked.

3. *Punctured wounds and stabs*.—These may be produced by any form of penetrating instrument, from a hat pin or needle to a sword or bayonet. The wound is deep and narrow. The skin wound in itself may be insignificant, but the chief danger of this class of wound is due to the liability of the deeper structures being injured; thus blood-vessels and nerves may be divided or the abdominal or thoracic contents injured. They do not usually bleed much externally, but may give rise to serious internal hæmorrhage. When the inflicting instrument is clean they frequently heal without trouble.

4. *Contused wounds*.—These are usually caused by blunt instruments, such as a stone, or kick from a boot. The edges are always more or less

bruised. Contused or lacerated wounds are practically the same.

5. *Gunshot wounds*, whether caused by small-bore bullets or shells, are simply modifications of one or other of the above.

6. *Poisoned wounds*.—By this is meant any of the above class of wounds which have become infected with septic matter, that is to say germs. They are of a serious nature, as the germs growing in the wound produce poisonous substances, which are absorbed into the body and produce constitutional symptoms, such as fever, etc.; moreover if unchecked, blood poisoning may be set up and death results. The great importance of keeping all wounds aseptic or germ free must therefore be obvious.

Snake bite, etc..—Under poisoned wounds may be included special wounds, such as the bites from poisonous snakes and the stings of insects; in these the poison is injected into the wound at the moment it is made. They are very dangerous, because the poison rapidly reaches the blood and so the patient often dies in a very short time. Wounds from poisoned arrows or spears must also be mentioned.

Treatment of snake-bite.—It is most important to endeavour to allay the anxiety of the patient. The first thing to do is to prevent the poison from reaching the heart through the veins. This is done by immediately tying a piece of string or a strong strip of shirt or handkerchief very tightly round the limb some distance above the wound, between

it and the heart so that the part below is strangled. Next if any brandy or other stimulant be at hand, give a good dose, as the poison has the effect of stopping the circulation. Then, if possible, cut freely into the wound and encourage bleeding and until this has been thoroughly done do not take off the band.

If permanganate of potash crystals are handy, make a cross-shaped incision over the bite and rub some of the crystals in thoroughly. If the breathing is bad or has stopped use artificial respiration.

Treatment of stings of venomous insects.—The stings of bees, wasps, hornets, etc., should, if found, be removed and ammonia or bicarbonate of soda, if available, be applied.

To dress wounds.—Never begin to dress a wound till everything that is likely to be required is ready close to hand. Arrange the bed clothes so that no part of them can touch the wound, cover them with a sterilised towel, place a mackintosh underneath the patient so that the bed does not become damp. Take off the bandage, but do not remove the actual dressing. Scrub the hands and nails well with soap and water and a nail brush, rinse the hands and soak them without drying into antiseptic lotion. Don't touch the dressing with the fingers, remove it with sterilised forceps; should it have stuck, soak it with warm antiseptic lotion, be careful to wipe from the wound outwards, so as not to carry germs from the surrounding

skin into the wound. Place the fresh dressing on the wound with the forceps and then re-bandage. All old dressings must be at once removed and destroyed, burnt if possible.

HÆMORRHAGE OR BLEEDING.

Bleeding or hæmorrhage occurs when any portion of the system of blood-vessels gives way or is opened into by injury or disease.

There are three varieties of hæmorrhage :—
Arterial, Venous, Capillary.

These three varieties may furthermore occur—

- (1) Externally when the blood can be seen escaping, such as from a cut.
- (2) Internally when the blood escapes in the tissues or organs of the body and cannot be seen.

This variety may be recognised by the symptoms of the patient.

Internal Hæmorrhage.—This condition may occur as the result of injury or disease. The symptoms of the internal hæmorrhage are great prostration and weakness, the surface of the body is blanched and white, the lips lose their colour becoming ashy grey. A cold clammy sweat breaks out on the patient's forehead and his features assume an aspect of extreme anxiety. His breathing becomes shallow, hurried and sometimes laboured. At times he yawns and sighs, his pulse is weak and

may be imperceptible. Later the patient gasps for air and struggles to obtain it and becomes weaker and unconsciousness sets in.

Treatment.—Send for the doctor. Try and find out the cause of the bleeding. If from disease or injury to any part of the body where ice can be applied, apply it at once. Loosen anything tight about the neck or body, give ice to suck. Raise the foot of the bed three or four inches from the ground. Give no stimulants. Apply hot water to his feet. Keep absolutely quiet, do not talk with him. Try and gently restrain him if he becomes very restless. Do everything to allay anxiety should he become anxious about himself, as this is a most important duty in connection with the treatment of these cases.

EXTERNAL HÆMORRHAGE.

Arterial hæmorrhage may be known by the blood escaping from an artery in jets or spurts, because it is pumped out by the heart; it is bright red colour, and may be stopped by pressing on the artery, between the wound and the heart.

Venous hæmorrhage is bleeding from the veins and may be known by the blood being of a dark purplish red colour, its flowing in a continual stream, that pressure applied on the side of the wound furthest from the heart stops it, while pressure applied between the wound and the heart does not.

Capillary hæmorrhage.—The blood escapes from the capillaries and oozes from all parts of the wound trickling down to the deeper parts where it forms a little pool.

Arrest of external hæmorrhage.—The means of temporarily arresting external hæmorrhage until more permanent means can be resorted to by the Surgeon are—

1. Pressure.
2. Application of heat and cold.
3. Position of the patient.

Pressure.—If the bleeding point be within reach, hæmorrhage need cause no alarm, as pressure will control it, however big the vessel may be.

It may be applied—

1. Directly on the bleeding part, if necessary, by means of the finger or thumb (digital compression), but preferably by plugging the wound with a piece of antiseptic gauze.

2. Close to the wound, between it and the heart (if the bleeding is from an artery) or below the wound, that is on the side distant from the heart (if from a vein). It may be applied by the finger or in case of the limbs, by means of a tourniquet. It should be made in such a direction as to press the vessel against some resisting structure such as a bone.

3. In bleeding below the knee or elbow, pressure may be applied by placing a pad in the bend of the joint and flexing the limb.

Heat and cold.—Of these, heat is the more effective but neither are so certain as pressure properly applied. Heat may be applied by means of hot water at a temperature of from 140 to 160 degrees Fahrenheit. Warm water is worse than useless as it tends to increase rather than diminish the bleeding. Cold water is not so effectual as hot, it is also liable to increase shock.

Position of the patient.—This is often of great importance. Absolute rest is essential. Lay the patient down and try to keep him as quiet as possible and to allay his alarm. While keeping the patient lying perfectly still, if the bleeding is from a limb, raise it and keep it so.

Compression by tourniquet.—Compression by means of a tourniquet is only applicable in the cases of the arteries of the limbs, where the pad takes the place of the thumb and finger as described in digital compression.

To apply the tourniquet place the pad over the main artery, the strap is passed round the limb and buckled. Care must be taken that the pad does not shift from its position over the artery.

Nose bleeding.—This is called Epistaxis; it may be treated by making the patient lie down and holding a piece of ice if available to the bridge of the nose or the patient may be directed to sniff ice cold water up the nostril. The application of cold to the nape of the neck is often effectual. Keeping both arms fully extended above the head is also of value.

Varicose veins.—This generally occurs as the result of an ulcer from the flow of which blood will be seen to be issuing. Lay the patient down and raise the limb. Apply an antiseptic pad. Bandage the limb above and below the bleeding point. Keep the patient quiet and the limb raised.

CHAPTER XI.

POISONS AND THEIR ANTIDOTES.

Definition.—A poison is any substance which on being absorbed into the organs of the body or by chemical action on the tissues, injures health and destroys life.

In all cases of suspected poisoning a medical man should be sent for at once and the directions here given should be followed at once by the Orderly as no time must be lost.

Two main principles must be borne in mind in the treatment of cases of poisoning :—

First.—Try to remove the poison already taken, if possible or advisable.

Second.—Try to lessen the poisonous effects by giving the proper remedy sometimes called an antidote.

Any poison remaining, all vomited matter or anything likely to prove of importance in the inquiry which is sure to take place, should be carefully preserved for inspection.

Treatment.—When a poison of which the nature is unknown has been swallowed the following combination may be administered :—

Carbonate of magnesia.	} equal parts.
Powdered charcoal.	
Hydrated peroxide of iron.	

To be given freely in a sufficient quantity of water. This preparation is harmless and is an anti-

dote to many of the most common and active poisons. Hydrate of peroxide of iron may be obtained by precipitating Tinct. Ferri. Perchlor., by liquor ammoniæ. Milk or flour and water may also be given.

CORROSIVE POISONS.

Symptoms.

Great pain immediately after taking the poison in the mouth and throat, which looks as if scalded: mouth and lips stained and blistered, shock and perhaps difficulty in breathing. Breath may smell sour or of hartshorn.

Treatment.

Do not give emetics. If the smell is sour probably the poison is an acid, in which case magnesia mixture, lime-water or chalk and water, linseed or olive oil poured into the mouth help to stop further action by neutralising the activity.

If the breath smells of hartshorn or does not smell acid, probably the poison is an alkali, in which case some weak vinegar and water or lime-juice should be administered. Apply hot water bottles to the feet and other means for restoring from shock.

Use remedies as soon as possible. Have the tracheotomy instruments in readiness.

The following are the most common poisons :—

Oil of vitriol (sulphuric acid), spirits of salt (Hydrochloric acid), nitric acid, caustic soda, caustic potash, strong ammonia, oxalic acid (salts of sorrel), carbolic acid.

IRRITANT POISONS.

Symptoms.

Pain not at first great. Generally a sensation of burning, or a strong taste in the mouth and throat coming quickly if the poison is liquid and less quickly if it is solid when taken. The parts touched by the poison are not burned and the pain is not so great as in the case of corrosive poison, but it gradually increases and vomiting sets in, with pain in the stomach, diarrhoea with straining and sometimes blood in the stools. Much can be learned by

Treatment.

Give emetics. Give warm water and encourage vomiting until the water returns clear, then milk and white of egg, oil, melted butter to stop the irritation. Get the stomach tube ready.

In phosphorous and cantharides poisoning oil or butter should not be given.

looking at the vomited matter. Shock and exhaustion set in generally.

The following are the most common irritants :—

Arsenic, antimony (tartar emetic), perchloride of mercury, copper, zinc, iodine, cantharides, powdered glass, stale or badly tinned fish or meat.

SYSTEMIC (CONSTITUTIONAL) POISONS.

Symptoms.

No sign of burning, redness or pain, but there may be giddiness, dimness of sight, drowsiness (gradually increasing), difficulty in breathing, irregular or weak pulse, delirium, cramps convulsions. The pupils of the eyes either widely open or tightly closed according to the particular systems of the body affected, nervous, vascular, respiratory, etc.

Treatment.

Give emetics. The stomach must be emptied by means of emetics or stomach tube, symptoms must be treated. That is, in case of drowsiness, the patient must be kept awake by being walked about, cold water being freely used, and hot coffee given. If the drowsiness becomes greater or the breathing threatens to fail, artificial respiration should be resorted to sometimes for hours if the pulse is weak; give sal volatile (ammo-

nia) gentle rubbing of the limbs if there are cramps, if delirium or convulsions are present, patient should be carefully watched and kept as quiet as possible, and the administration of the special antidotes in the case of each poison. If the case is prolonged nourishment should be given by the mouth or the rectum.

Emetics, etc.—The following may be administered to produce vomiting :—

1. Mustard
2. Salt
3. Sulphate of zinc, gr. 30 in water 1 oz.
4. Ipecacuanha, gr. 20 to 30 of the powder.
3p to 3l of the wine.
5. Ammonium carbonate, gr. 20 or 30 in water 1 oz.

Remember that an emetic promptly given may save the patient's life, but they are not to be given in cases of corrosive poisoning. Vinegar is the safest acid to administer.

CHAPTER XII.

COLLAPSE. DEATH.

Collapse means severe and sudden weakness of the heart and other important organs. It may also occur from hæmorrhage, after a bad accident, from fright, or shock to the nerves.

The symptoms are paleness of face, very feeble pulse, profuse cold perspiration, coldness of the feet and the hands, great restlessness and sometimes unconsciousness. Keep the patient as warm as possible by means of blankets, hot water bottles, give hot drinks and stimulants in small quantities, do not allow the patient to sit up. If the collapse is from hæmorrhage do not give any stimulants, or anything to drink, except a little ice to suck. Send for the Medical Officer at once.

What to do in case of death.—When you see that a patient is dying always put screens round the bed, so that the patient may be perfectly undisturbed and the other patients in the same ward may not be distressed.

After the breath has left the body always wait a few minutes, the Medical Officer will sound the heart to see if it has stopped beating and that the patient is really dead. Then gently remove the pillows, lay the patient down flat on the bed, remove the upper bed clothes except the top sheet, take off the shirt, place the limbs quite straight, the arms down by the sides and be sure the fingers are

straightened. Get a jaw bandage and tie up the jaw so that it may set firmly and straight, place a small pad of wet wool on the closed eyelids, and if necessary to keep the feet in position put a piece of bandage round the feet and ankles. Cover the body with a sheet and let it lie for an hour, then wash all over seeing the finger and toe nails are quite clean, brush the hair and moustache. Plug the rectum with cotton wool to stop any discharge. Put a clean shirt and socks on the patient, a clean sheet under the body and one to cover it over with. While the body remains in the ward Orderlies should be as quiet as possible themselves and keep the patients in the ward from talking. The body is generally removed to the mortuary and in India the Orderlies should themselves carry the body down and not leave it to Native Ward servants to do. If there is a post-mortem examination great care must be taken to wash the body carefully and put on clean linen. After the body has been removed from the ward, the screens should be taken away, all linen disinfected, the bedstead washed with carbolic lotion and put in the sun, the locker also should be put outside and the floor well washed over with lotion. All the patient's private belongings should be put together and a list made of them and handed over to whoever is in charge.

CHAPTER XIII.**COOKING FOR INVALIDS.**

In all cooking it is very essential that sauce-pans, spoons, basins, etc., should all be perfectly clean before use. To insure this all utensils should be cleaned as soon as they are finished with.

Peptonised Milk.—Mix one whole Fairchild Zymine Powder into 5 oz. of cold water, add to 1 pint of fresh milk. Stand the jug of milk in a basin of boiling water for fifteen minutes, stirring occasionally, then boil up quickly.

Whey.—Take one pint fresh milk and bring to the boil, when boiling add the juice of two limes (strained) or about enough tartaric acid and alum mixed to cover a two anna piece, boil up and stir till the milk curdles, stand on one side till cool, then strain, add sugar to taste. One pint of milk will make about fifteen ounces of whey.

White Wine Whey.—Boil a pint of fresh milk, when boiling add about three ounces of sherry. Let it boil till it curdles. Stand till cool and strain.

Rennet Whey.—Warm a pint of fresh milk (blood heat). Add one teaspoonful of rennet to the milk, let it stand until the milk is curdled. Break up the curds with a fork and strain off the liquid whey.

Junket.—Warm a pint of fresh milk to blood heat, add a little sugar and half a teaspoonful of essence of vanilla, and one teaspoonful of rennet. Stir once and let it stand till set.

Arrowroot.—Mix 1 dessertspoonful of arrowroot, and 1 teaspoonful of sugar with five ounces of cold water into a smooth paste. Boil half a pint of milk, when boiling add the arrowroot and boil again for three or four minutes, stirring all the time.

Milk Jelly.—Take half a pint of fresh milk, and boil, add a small piece of the rind of a lime, or half teaspoonful of vanilla essence, a little sugar, dissolve half a packet of Nelson's gelatine, stir into the milk. Pour the mixture into a basin, previously dipped into cold water, and let it stand till set.

Baked Custard.—One pint of fresh milk, two eggs, two tablespoonful of sugar, a small piece of cinnamon. Beat the eggs into a dish with sugar, then add the cinnamon and milk and bake in a moderate oven for twenty minutes.

Boiled Custard.—Prepare as for a baked custard, instead of putting into the oven, put the mixture into a cup and place the cup in a saucepan of boiling water and let it simmer till thick but liquid.

Eggflip.—Beat well one egg with about half a teaspoonful of sugar till it comes quite clear from the sides of the mug, add about 1 tablespoonful of boiling milk or water while beating. Then pour on 5 to 10 oz. of milk, hot or cold, according to taste and give Brandy, or Port Wine may be added if required.

Albumen Water.—The white of one egg well beaten with 5 oz. of water. Add sugar to taste. May be flavoured with vanilla essence, lemon, etc.

Beef Tea.—For 1 pint of beef tea, 1 lb. of good clean beef is required. Cut the meat into small pieces, after taking away all the fat. Put the pieces of meat into a clean jar with 1 pint cold water, a small onion, salt and pepper. Cover the jar, place the jar into a large saucepan of boiling water and let it simmer (not boil), for about three or four hours. Strain before serving.

Chicken Broth.—Cut up a chicken into small pieces, put the meat and bones with salt and pepper into a jar, add 1 pint cold water, cover the jar, and then place in a saucepan of boiling water and let it simmer (not boil) for two or three hours. Strain.

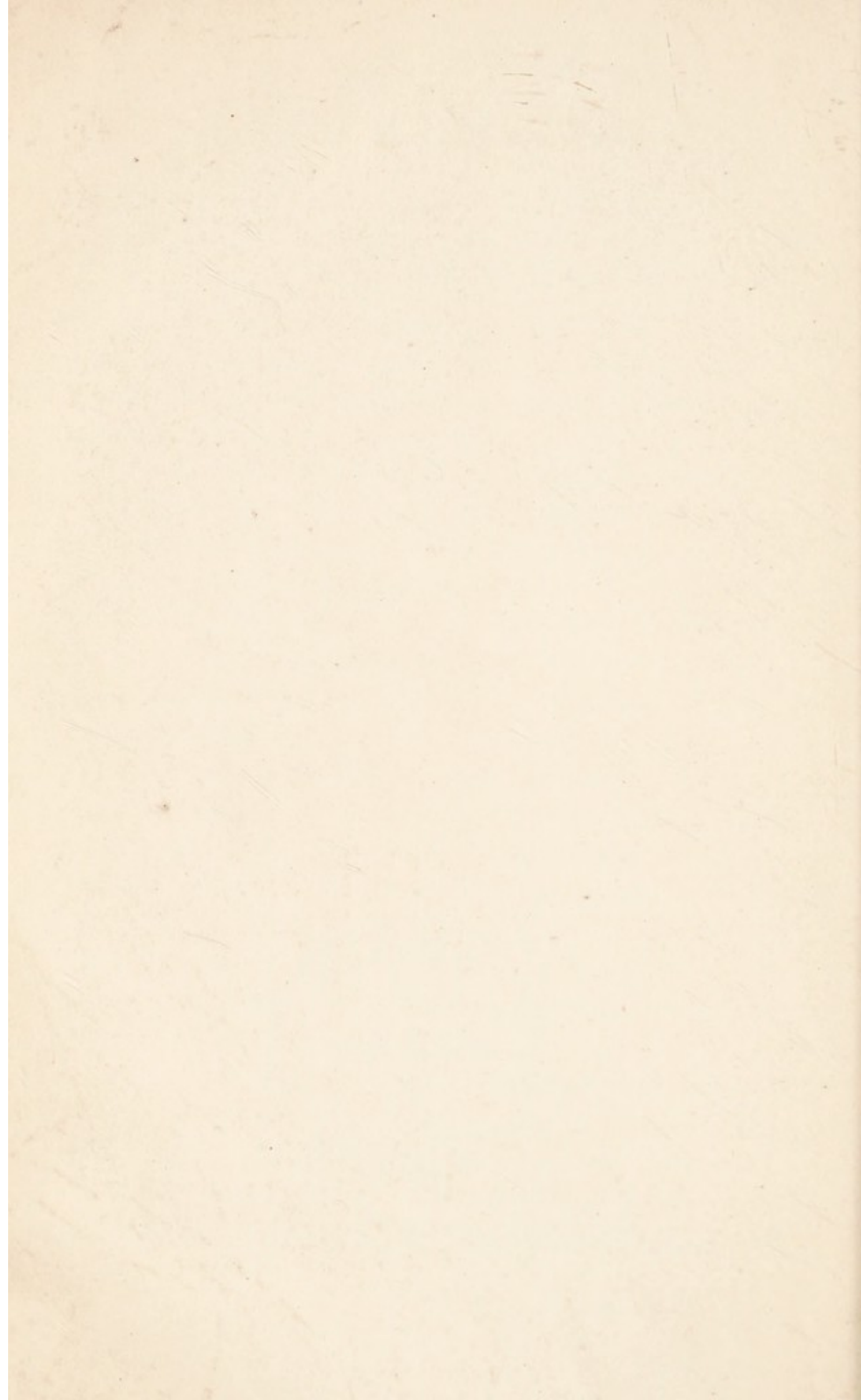
Barley Water.—Take three or four large spoonfuls of pearl barley. Wash well in two or three different waters, then put in a clean saucepan with $1\frac{1}{4}$ pint of water and a small spoonful of sugar. Let it boil up then simmer for one hour stirring every 10 minutes. Add juice of a lime and strain before giving to the patient.

Barley Water.—(Thin) 2 oz. of well washed pearl barley, a quarter of a lemon and a little sugar, pour over it one pint of boiling water. Let it cool and then strain.

Raw Meat Juice.—Select and prepare a pound of beef as above. Put into a basin and pour over it one cupful of cold water, to which add five drops of dilute hydrochloric acid. Let the whole stand for two hours in a cool place, strain and serve with a little salt.

Liebig's Quick Beef Tea.—Add one teaspoonful of Liebig's to a breakfast cupful of boiling water, add salt and pepper to taste.





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