FOUR LECTURES

Delivered to the Nurses of St. Michael's Hospital Toronto

By

JAMES F. W. ROSS

TORONTO:
WILLIAM BRIGGS
1901

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PREFACE

Every man may add a little to the store of knowledge. I have been asked to publish these lectures by the class to whom they were delivered. If they contain anything not already given to trained nurses I am amply repaid.

LECTURE I.

THE NURSE HERSELF.

It is with some feelings of misgiving that I address you. Having been connected with this institution since its inception, I have continually endeavored to evade this task, feeling that it can be much better performed by others more able to express their ideas.

It is not my intention to consult books, but to give you a few thoughts that I have been able to glean from the storehouse of experience. I know nothing, and care less, of what has been written or expressed by those who are engaged as teachers in this department. For myself I have set up an ideal, and it is my intention to describe that ideal, and if my opinions coincide with those of others I will be equally as well satisfied as if they do not.

There is something about a woman that especially fits her for this task. A woman's gentleness, a woman's kindness, a woman's love, a woman's forbearance are proverbial.

> ". . . . Variable as the shade
> By the light quivering aspen made,
> When grief and anguish wring the brow,
> A ministering angel thou."

The character of one woman naturally differs from the character of another. Some are gifted with pleasant smiles, some are the possessors of musical voices that are grateful to the ear, others have features that give to the face an expression of sadness, others are overflowing with mirth. But each one may be, at the same time, a true woman, genuine, natural, real. Be genuine to your best instincts and keep your unpleasant characteristics in the background where they will neither offend your patient nor the attending physician or surgeon. Let your hearts, as full as the hearts of women should be, go out to your work; for a work that is full of love and full of kindness can be done just as thoroughly, just as efficiently, just as conscientiously as when it is performed with a cold, stern sense of duty. Do not imitate the cold, ascetic, emotionless woman, the so-called up-to-date woman, nineteenth century woman, the strict disciplinarian who is too frequently put in charge of training schools, a shrewd office-seeker whose heart has never been moved by the love of anything.

I would have you take as your pattern a woman who has not only brains, but is sunshiny, bright, kindly, lovable, whose example, permeating all ranks of those under her guidance, must influence them for the better.

My ideal is of a cheerful and unselfish disposition. She is kind and patient. She loves her work for the sake of the work itself, and not for the paltry remuneration that is its accompaniment. Her heart goes out to those in trouble. She is unselfish, patient and kind.

I have often thought that, when bowed down by the weight of responsibility and annoyed at the unjust criticisms of the ignorant, a doctor would much rather practise medicine and surgery among the deaf and dumb, were they numerous enough, and among the little children, because these accept what is done for them without murmuring.

You will find some of your patients very trying and very unreasonable, pettish, overbearing, consequential, perfectly detestable as human beings judged by our standards, but you must never forget that they are ill and suffering, and that you must attempt to fill up in the positive all the qualities that they lack. A good temper usually accompanies a good heart. The individual is not the one to be considered by the nurse, but the patient, the sufferer.

A good heart is not all the nurse requires. A good heart will not control the unruly member. "Keep your eyes wide open and your mouth tightly shut." My ideal does this to great advantage. You cannot pay too much attention to this point. Secrets hidden down in the depths of the patient's soul are often laid bare to the intellectual eye of the observing physician. The patient may, like the ostrich, be burrowing the head in the sand, hoping that the form will be covered too. As the secrets are gradually revealed to the physician the nurse unconsciously gathers enough information to open to her view the inner chamber of the patient's life. As with the physician so with the nurse, these secrets must be held inviolable.

And we may go even further. It is not always necessary that the nurse should disclose to the attending physician all that she learns about her patient. Before doing so she should weigh the matter carefully in her mind and use the judgment with which she has been endowed. She should try to place herself in the patient's position and then do what she thinks is best under the circumstances.

Gossip is harmful, and a gossiping nurse is a harmful one. This fault is a grave one. Who among us would care to lay bare to the world our most sacred family secrets that must often be known to the doctor and the nurse? Who among us would care to admit to our households a gossiping woman? It is an unwritten law that the sanctity of a man's household shall not be entered by the gossip.

But while I would admonish you to keep your tongue in check

you should not go about with your eyes shut. Use them to the best advantage without prying. You must do so for self-protection, to obtain useful and necessary information. But let your eyes be shut to things that do not concern you. Do not meddle in other people's business. The eyes should observe and should be the windows of the brain. One who does not observe might just as well be blind, and we all know that the blind have difficulty in acquiring knowledge. The knowledge acquired by observation is of the richest possible kind, a knowledge gained by personal experience, a knowledge that never leaves one but remains to the latest hour of life. By your observation of your patients you are able to study character. A study of character will guide you in the management of your cases. After you have read your patients you will be able to cultivate their good traits and to ignore their bad ones. You gain their confidence, and without this confidence your work will not be satisfactory to the patient, to the doctor, or to yourself.

The very foundation of friendship is faith in one's friends. The implicit faith that is placed in the doctor is a great help in sickness, and having faith in one's nurse is almost equally as essential.

Let not your face be the index of your mind. It is not well for the sick that they should be thoroughly acquainted with their condition. They must be kept, to a certain extent, in the dark, and, as a consequence, both the nurse and the doctor must dissimulate. A sudden, anxious expression, visible in the face of the nurse, must tend to discompose the patient. You are always to be excused if you give an evasive answer. Some patients are ever watchful, and to outwit them the nurse must be more on her guard than ever if she is to succeed in concealing the true state of affairs.

There is such a thing as knack, or tact, and with some it seems to be a natural gift. This knack, or tact, is a great help to a nurse, and my ideal is brimful of it without letting it ooze out at the pores.

Never discuss the case of one patient with another. Do not relate past experience with other cases in the false hope that such will engender confidence. To do so is puerile and offensive and displays an unpleasant fault. Talk of everything else but shop. To do this a nurse should be widely read, should be acquainted with many subjects outside of her own profession. A well-read nurse is able to converse readily and pleasantly while away the tedium of many a weary hour. As, in the time of danger, you have smoothed the pillow and bathed the fevered brow, so now you are able, in the days of convalescence, to be pleasant and interesting companions.

Be quiet when quietness is required. Never shout or raise your voice unpleasantly. Remember also that noise is not all made with the vocal cords. A rustling silk skirt, a crackling starched gown, a hard heeled boot, a roughly moved chair, a chinking basin—these

are all annoying in a sick-room. Dress yourself in such a way that you may move about noiselessly, flitting to and fro more like sylphs than beings of flesh and blood. Be gentle in your touch and remember that hands were given to assuage pain and not to cause it. Endeavour to cultivate deftness and to learn how "not" to be clumsy. Be quick in your movements. A slow nurse is a worry. It is much better, in giving a bedpan or in handing a dish for sickness, that they should be placed in position in good time than too late. Remember that what may seem to you to be but a few moments may seem, to a fretful patient, an hour.

When remonstrated with, remember that silence is golden. Under such circumstances, if you will but think "twice before you speak once" you will never speak until the circumstances have passed by and have been perhaps almost forgotten.

My ideal is very methodical. As a consequence of her method her work never becomes a labor. She is the very essence of tidiness and order. She never forgets that there is a place for everything and she keeps everything in its place. Her brain thinks for her body and thinks ahead.

Classify your requirements mentally for every particular occasion and do not omit important details. When you have anything to do think it out, outline your method of procedure and supply yourselves with everything that can be required. It is annoying for the doctor, and worrying to the patient, if the nurse is constantly running to and fro for articles that should have been gathered together in readiness, as the consequence of a little forethought. You can save yourselves many an unnecessary step by a little forethought; by husbanding your strength you preserve your health and temper. Thoughtfulness is one of the brightest gems in the diadem of a good nurse. When you have brains why not use them, and how can you use them better than by thinking? The word "forget" is one that should never have a place in the nurse's vocabulary.

And now we come to one of the most important duties of a nurse—implicit obedience. The nurse who does not carry out her instructions is worse than useless. Deceit may be practised successfully for a time, but remember that you will soon be found out. I was struck, on one occasion, by the remark passed by a gentleman during a discussion on dishonest clerks. He said that he would never take back into his employ an employee who had once been dishonest. No doctor will employ a nurse after he has found out that she has deceived him. If, unfortunately, some order has been forgotten, do not be afraid to acknowledge the oversight and then take the lesson to heart in all humility. Should the doctor be severe, remember that the fault is yours and not his. You are placed in a position of trust and any breach of that trust courts condemnation. Do as you are told or else resign your position. Doctors differ, but their differences do not affect your conduct. You must be loyal at all times to the gentleman under whom you are

serving. It is true that the doctor owes a duty to the nurse, and it is equally true that the nurse owes a duty to the doctor. If, at any time, you think you are not properly treated you always have a recourse, namely, withdrawal from your position.

Nurses are only human. I have never found them to be the celestial beings of whom we read and hear. My ideal is too useful, too matter-of-fact, to be but terrestrial. As a consequence of their humanity, nurses must place more confidence in one physician than in another but they must keep their preference to themselves. If everyone fancied the same doctor he would soon be overrun with work and the patients would suffer from neglect as a consequence. You cannot make others think as you do, and it is no part of your business to try to do so.

You should remember that a nurse is not a doctor and should never attempt to pass as one. All such efforts savor of quackery and are frowned down by intelligent physicians. If the doctor is not sufficiently explicit in his orders, do not hesitate to ask him for full directions. He will think all the more of you if you are forced to disclose what may not appear to you to be a pardonable ignorance. Such explanations should not be sought for before the patients or the friends, but should be obtained when there is no one else present but the doctor and yourself.

If you feel tempted, at any time, to make suggestions to the attending physician, use great tact in offering them and never offer them in the presence of the patient or the patient's friends.

Be tidy and neat. Scrupulous personal cleanliness must be observed. If a nurse is not cleanly in her habits the people are afraid to trust her. Frequently change your clothing; pay the greatest attention to your personal appearance. Do not yawn and sigh when tired but endeavor to conceal your fatigue. Remember, however, that you owe a duty to yourselves, and, therefore, do not hesitate to let the doctor know when you are over-fatigued and require further help. A nurse is never called upon to attempt impossibilities. There is a limit to all human endurance and she cannot work day and night without rest. The willing horse generally gets the largest portion of the burden, and the willing nurse is often imposed upon. Under such circumstances, you have a perfect right to assert yourselves.

Never stand and discuss the features of the case with the doctor before the patient or friends when it is better they should be kept in ignorance of these conditions. On the other hand, too much reserve is sometimes regarded with suspicion by the sick ones, and your judgment must guide you as to "what you shall say" and "how you shall say it."

The progress of the case is, in these modern days, recorded on the history paper and the doctor can read for himself. Let your inscribed picture truthfully convey to the physician all of importance that has taken place since his last visit.

Be extremely guarded in your answers to friends in the doctor's

absence. Refer them to him for information and do not burden yourselves with needless responsibilities. Never carry out the suggestions of friends without obtaining the doctor's consent. It is not necessary to openly resent such suggestions, but you should endeavor, by an exercise of that innate tact of which I have spoken, to postpone all such questions until after the attendant's arrival. Sometimes this interference of friends will be almost past human endurance, but you must train yourselves to battle with all such ignorant meddlers.

You must remember that a nurse may convey infectious diseases from one patient to another. You cannot observe too great caution in this regard. An entire change of clothing should always be made before you take charge of a new case. Great attention must be paid to the patient's surroundings. The bed must be kept scrupulously clean as well as the person of the patient. To attain these ends your patience will often be sorely tried, but you will be rewarded for your extra labor.

There are many little attentions that are grateful to a sick person that are not specially ordered by the physician in charge. The placing of a hot water bottle, the laying of an extra counterpane, the bathing with alcohol and camphor of the fevered forehead, the cold ablution of hot hands, the hot sponging of cold feet, the placing of a sinapism over a nauseated stomach, the cleaning of a thickly coated tongue, the application of glycerine and water to cracked lips, the moistening of a parched mouth—all these attentions are part of the duties of a nurse.

The ventilation of the sick chamber must be attended to, and the nurse must see to it that it is neither too hot nor too cold for the patient's comfort. Some patients prefer a greater degree of warmth than others. A room can be warm and can still be well ventilated.

The light should be shaded from sensitive eyes and turned down at night to assist in conducing slumber. The sick chamber should never be kept darkened during the hours of daylight, unless for some special reason.

An attempt should always be made to mitigate offensive odors without replacing them by odors almost equally offensive.

In administering liquids, attention should be paid to their temperature, and the nurse should remember that very cold and very hot drinks are palatable, while those that are lukewarm are nauseating and unpleasant. When meals are served the dishes should be hot, not merely warm, if the food is to be taken hot. A daintiness can be observed in administering food that greatly assists a very poor appetite. Do not be discouraged if the patient refuses to take the food offered, but try again, and try him with some new dishes. It is not always wise to let the patient know what food is being prepared. If a particular fancy is expressed you can silently endeavor to please the fancy if it is not otherwise contraindicated. My ideal is a skilled cook. She is a perfect

master of the culinary art, and can prepare the very daintiest of dishes.

See to it that medicines and stimulants are sufficiently diluted. Taste them if you are at all uncertain about the matter. Many a patient's throat has been irritated by insufficiently diluted stimulants administered by a nurse totally unaccustomed to their use. When administering medicines never do so in the dark. Read each and every label, and carefully scrutinize each and every bottle before removing the cork. Unless you do so you become "demons of danger" instead of "angels of safety." See that all poisons are kept carefully in a place of their own and away from the medicines that are to be frequently administered. Learn how to administer unpalatable draughts in the most palatable form and at the most propitious moment.

When giving the bedpan see that it is properly warmed before placing it. See that the patient is properly sponged off and dried after its use, and that the bed is not left wet under her.

If the catheter is to be used, bear in mind the fact that the parts are sensitive and that much damage may arise from the use of a dirty instrument in dirty hands. It is scarcely possible to use the cleansed catheter for more than five days consecutively without causing a great deal of irritation. The patient must, therefore, be encouraged and coaxed by repeated trials to void the urine in the natural way. The urine should be removed by catheter every eight hours, or at least three times in a day and night. There are several varieties of catheter in use, glass catheters, metal catheters, and the soft rubber catheters. If the glass catheter is used, care must be taken not to break it. If a soft rubber catheter is used, one that is stiff enough to pass readily into the urethra, must be obtained. Some of these are made imperfectly and are too readily collapsible. It is better that each patient should have his or her own catheter. The instrument should be carefully sterilized before and after its use. Soft rubber can be boiled without damage.

When an enema is required, see to it that a proper nozzle is used. The rectum is sensitive, a resistance of the sphincter or closing muscle at the anus has to be overcome before the rectum can be properly entered. Many people suffer from piles, or hemorrhoids, that are extremely sensitive and the mucous membrane of the anus itself is very liable to become cracked. The water should be allowed to run out from the syringe for a moment to expel all air before the nozzle is inserted into the bowel. Some enemata are intended to remain in the bowel for absorption, while others are intended to irritate the bowel and produce expulsive efforts; the former should be given in small quantities not oftener than every four hours, while the latter should consist of a larger quantity of water, about two quarts, to be repeated as soon as it is expelled. The temperature of the fluid should always be carefully noted. It need not be hot. The heat is always exaggerated by the sensitive mucous membrane of the bowel, and the patient is likely

to complain that the water is too hot when it is in reality not hot enough to do any damage. It must be remembered that the rectum, like the stomach, requires well diluted fluids. Brandy or whiskey injected into the rectum, insufficiently diluted, will cause irritation and a burning pain.

A hypodermic injection must always be given with great care. Every nurse should possess a good hypodermic syringe and she should see that it is kept in good order. The leather on the piston rod dries readily, and the syringe, as a consequence, becomes useless until the leather has been again thoroughly moistened. The needles should be sterilized either by immersion in pure carbolic acid or by boiling in water for a few minutes. After use it is well to dip them into pure alcohol to remove the excess of moisture from the interior. The skin about the site of puncture should be washed off with soap and water before the needle is inserted, and the needles should be forced below the fat. Tablets should be used in preference to prepared solutions. Sterilized water should be the solvent medium. In this way distressing and disgraceful hypodermic abscesses will be avoided.

Every nurse should be provided with a chatelaine to which should be attached a probe, a pair of sharp scissors, and a pair of dressing forceps. The dressing forceps should be of a generous size and with a good spring. Scissors should cut to the very point and the probe should be small and smooth and free from scratches.

Every nurse should be provided with a reliable thermometer. Frequent washing of this little article pleases the patient, and I always like to see it washed before and after it has been used. It should not be washed in hot water because, if this is done, the sudden expansion of the mercury is likely to break the bulb.

You may think it strange that the diet of a nurse should be considered, but, nevertheless, it is so. Nothing is more unpleasant to a patient than the foul breath of a nurse who is raising the head and administering a drink to one with an easily nauseated stomach. It should be remembered that if sweets are eaten by a person who is not taking exercise, or if meals are taken at irregular intervals, indigestion is liable to result and, as a consequence, the breath is liable to become foul. Articles of diet likely to give an unpleasant odor to the breath of the nurse should be eschewed. Great attention should be paid to the teeth, and if the nurse should be unfortunately afflicted with ozena, or catarrh in the nose, a nose spray should be used once or twice a day in order to cleanse the nasal passages.

Perfumes should not be used. Some perfumes are agreeable to one person and extremely offensive to another.

Constipation should be carefully guarded against, and a walk out of doors every day for half an hour should be insisted upon.

The hands of the nurse should be kept free from cuts or scratches. My ideal never meddles with carpenter's tools or tight corks and cork screws, or with tightly-shut windows, but she obtains

the assistance of some man better able to attend to such odd jobs than she is. By doing so she avoids many of the abrasions of the skin that will otherwise be produced. A nurse should wear gloves when out in the wind, and she should always thoroughly dry her hands, especially between the knuckles, when wet. If these precautions are observed she will not suffer from chapped hands.

Never allow strong solutions to remain on your hands for any length of time, but rinse off the solution with plain water. Remember that your fingers were never intended as wipes for your eyes. When your eyes are irritated and require wiping use a clean handkerchief for the purpose. Discharges from the vagina, or from a wound of a patient, may be very poisonous, and all such discharges should be treated with suspicion. If no abrasion of the skin exist and the eyes are not rubbed with the fingers you need have no fear of suffering any damage.

Infectious diseases have special features. Typhoid fever seems to be transferred from the anus of one patient to the stomach of the next host. In typhoid fever the stools, and the parts soiled by them, are dangerous, and, therefore, the hands must be most carefully washed after attention has been given to the movement of the patient's bowels. The fingers should not be put into the mouth.

Scarlet fever is reproduced by the peeling off of the patient's skin. If the skin is kept well oiled the particles of epidermis do not float about the room to any extent.

Measles and whooping cough are inhaled and are supposed to be given off by the patient's breath.

Diphtheria is likely to be carried from mouth to mouth and is perhaps inhaled. The fingers should, therefore, be thoroughly washed after each treatment of the throat and the nurse should be careful to keep them out of her eyes and mouth. Never let a diphtheritic patient cough in your face, and when examining and treating the throat wear glasses to protect your eyes.

All attendants upon cases of small-pox should be vaccinated.

Be courteous without being obsequious. You should respect rank and fortune and pay due deference to those in authority over you and to your employers. Do not let yourselves become hardened by what you may learn of the weaknesses of human nature. Much will be disclosed to you that is new and awful. It is not part of your duty to philosophize on the causes of disease but to alleviate the sufferings produced by the disease. The meanest criminal and most depraved wretch has just as much right to your kindliest attention as the greatest saint who ever lived. Always endeavor to conceal your feelings of disgust when waiting upon a disgustingly offensive case. The sick are particularly sensitive on this score and one frequently hears the remark "Oh, Doctor, I do hope I will not become offensive."

You should take all due precaution to protect yourselves against infectious diseases but you must not be cowardly. My ideal, though

essentially feminine, is as brave as a lion, and though duly vigilant, has no fear of her own safety.

When nursing in a household endeavor to adapt yourselves to circumstances. It is often much more pleasant to nurse in palaces of the rich than in the hovels of the poor, but remember that it is no disgrace to be poor, and that the poor have feelings equally as sensitive as those of the rich. It is in the house of a poor man that my ideal shines like a ray of sunlight. She soon tidies the place so that her orderly hand can be easily recognized in the change from confusion to order.

In conclusion, I would say, that nurses should continue to be students. Medicine and surgery are progressing with rapid strides, and with these strides new methods are being developed and old methods are being discarded. Nurses should, therefore, keep themselves in touch with what is transpiring in the medical world. Every opportunity afforded for revisiting the hospitals should be made use of. They should be familiar with what is going on in the hospitals as the years roll by.

Much that I have said may appear to be extremely elementary. A first-class professional nurse is made up of just such elements. Sometimes an attempt is made to separate nurses into two classes, medical and surgical. I consider that a surgical nurse is a medical nurse with a surgical training. No nurse can be only a surgical nurse; such a thing is ridiculous. She must be a proficient medical nurse before she can become a successful surgical nurse. With the lapse of time and change of conditions a surgical case may at any moment become a medical case, and may require the well-directed attention of a thoroughly trained medical nurse.

LECTURE II.

THE PATIENT AND HIS OR HER TREATMENT: OPERATIONS.

We have already discussed the nurse, her many excellent qualities, and some of her shortcomings, and now we must discuss the patient and the patient's peculiarities and the diseases with which he may be afflicted.

Patients may be rich or poor, considerate or inconsiderate, reasonable or unreasonable, intellectual or stupid, generous or mean. They may present human nature in its brightest light or in its darkest colors. Patients present all the various nervous types from the restless vagaries of petted hysteria to the unconscious somnolence of stertorous coma. No matter what the condition of health, or station in life, a patient should always be a patient in the eyes of the nurse. As human beings, patients naturally take instinctive likes and dislikes. When one particularly dislikes a nurse or a doctor there cannot be the slightest objection to making a change. This will be better for all parties concerned.

Some patients are easy to manage, and some are extremely difficult to manage. Some must be constantly watched because they are unable to think or act for themselves; when they are perfectly helpless they require the greatest amount of attention.

Some patients are extremely inquisitive, not only about their own condition but about the condition of others by whom they may or may not be surrounded. They are frequently fond of playing the role of the amateur detective. They endeavor to break down the guard of the nurse and overcome her reserve. They endeavor, in one hundred and one ways, to draw her out and obtain information out of the merest curiosity.

Some patients are fond of criticising the attending doctor. Some are fond of criticising the food with which they are provided. Some crave for more sympathy than is accorded them. Some beg for articles of food or drink that cannot be administered with safety.

There is a certain class that cries out, and makes a reasonable outcry, against abuses that should be remedied. It is well to listen to these people. Sometimes patients who have lived on salt pork and potatoes anathematize hospital fare.

Frequently, the ones least willing to pay for extra attention

are those who demand more than their fair share. Some people are willing to pay for every attention and they should be able to obtain all they require. If willing to pay for two, three, or four nurses in their own homes they should be supplied. But there is a limit to such a demand within the walls of a hospital where there are so many others demanding the attention of a restricted staff of nurses. I believe, however, that under such circumstances, outside nurses should be employed. A hospital should be so organized that a wealthy man or woman can receive exactly the same attention that he or she can obtain in his or her own house. The poor undoubtedly receive more attention in a hospital than they can receive in their own homes. The patient has certain rights the moment that the services of a nurse are contracted for, whether in a hospital or out of it.

Patients vary very much as to their habits. Some are cleanly, others are filthy; some refined, others coarse; some frank and straightforward, others are underhanded and deceitful; some are abstemious, others indulge in alcoholics to excess; some use drugs as a habit; some are peevish and childish about their health and make a great outcry about their complaints; others, on the other hand, scarcely ever complain, and, as a consequence, may make light of what may be serious ailments.

Some patients are phlegmatic and are not easily disturbed, while others are upset by the merest trifles. The nervous force of a patient should be conserved in every way. A highly sensitive woman may be equally as brave as a strong vigorous man, but the nervous system of either may give way after a severe and trying ordeal. We frequently see the strongest men unmanned for days after they have been subjected to an operation.

The operating room, the operating and examining table should not be made any more formidable than is absolutely necessary. When stitches have to be removed, or a dressing changed, it is not wise to let the patients know. The mere idea will frequently drive away sleep. They should be kept in the dark regarding all such matters, matters that may seem of but slight importance to others.

It must be remembered that the appetites of patients vary; that there are large eaters and small eaters; that patients who have been accustomed to a certain restricted diet will frequently do well with but little food, while others appear to require a much larger quantity of food to keep them in health. The same obtains in reference to sleep. Some patients require but little sleep and others require a great deal. The same also happens in connection with the bed covering; some require but a slight amount of bed covering while others require one or two extra blankets to keep them in an equally comfortable condition,

Patients have also certain habits in connection with the movement of the bowels. We meet with those whose bowels move twice a day, and again with others whose bowels only move once

in two or three days. Each is in good health but the possessor of a different habit.

There are but few patients who are not very much upset by the occurrence of a death in a hospital ward. In an ideal hospital such deaths should not be allowed to occur in the wards; the dying one should be moved into some ante room. Such ante rooms frequently exist, and it requires but a little thoughtfulness to overcome the difficulty just mentioned. There should be no insurmountable barriers to the accomplishment of good within the four walls of a hospital.

Some patients are very heavy and are difficult to lift. A light patient can be much more readily moved about and attended to than a very heavy patient. Nurses must be careful not to strain themselves in attempting to lift very heavy patients. The patients must be turned and may require to be lifted for the purpose of overcoming the fatigue of one position and for the prevention of bed sores, but when such alteration in position is required help should be sought for.

Acute cases differ from chronic cases. A patient stricken down suddenly with an acute disease often demands a more careful inspection and a keener thoughtfulness from the nurse than one who has been ill for months. The acute case requires a great deal of attention for a short period of time, the chronic case requires a moderate amount of attention continued for a long period of time. Nurses must learn to be equally skilled in their attentions to either.

It is a well-known fact that patients have a dread of dying away from home and relatives and friends. It is oftentimes difficult for a doctor to say exactly when a patient is likely to die. He must depend upon the nurse in attendance, and the nurse must assist the doctor in preventing the occurrence of death in the absence of friends. The nurse is watching while the doctor slumbers. She must watch the symptoms most carefully in order that due warning may be given of any change. The rules of hospitals do not allow friends of patients to remain over night except in cases of emergency. If the change takes place in the night the friends of the patient must be summoned in order that they may be present at the end. There can be no pleasure derived from being present at a death-bed, but there is undoubtedly a melancholy satisfaction.

Patients often imagine that they are worse than they are, and the nurse must use a great deal of discrimination in deciding this point. Unnecessary calls on the time of a busy practitioner are annoying, and the nurse who saves him from such unnecessary calls is the nurse he is looking for.

There is a great deal to be learned in connection with the attention required by male patients as distinguished from female patients. Special knowledge is needed for a proper attention to female patients suffering from diseases of the generative organs. The treatment required after intra-peritoneal operations may be

the same in either case; each will require the same preparation for the amputation of a limb, but in order to deal intelligently with cases of disease of the female generative organs it is necessary that the nurse should be made familiar with an outline of the anatomy of the parts.

Points in the Anatomy.—There are certain points in the anatomy of the female pelvic organs with which you must be familiar. The first thing to mention is the fact that the passage to the bladder is called the urethra, that this urethra lies in a certain position, namely, just beneath the junction of the bones called the pubic bones, or the place that in other words is called the pubic arch. Running up to this pubic arch are the two lips, or labia, one called the large lip and the other the small lip of the external genitals. It is just below the junction of these lips, towards the front, that a space is found called the vestibule, and in the centre of this vestibule is the slit-like opening of the urethra or passage to the bladder. This passage runs backwards and curves slightly upwards until it reaches the bladder neck and is about an inch and three-eighths in length. It is liable to be displaced in cases in which there is a prolapse downwards of the bladder, and it may then be necessary to turn the point of the instrument backwards instead of forwards. The junction of these lips behind takes place at a part that is called the perineum. This perineum acts as a support. It presses the other portions up against the pubic arch and prevents them from pressing out into the world. Behind this opening between the two lips on either side, constituting, as it does, the vaginal orifice, there is another opening, the anus. The anal opening is closed by a muscle that keeps contracted and that opens out as we would stretch an elastic band, again to close after the motion or discharge from the bowels has taken place. It is necessary that you should remember that the cavity in which the bowels lie is named the peritoneal cavity, and that this cavity is continuous with the outer world through what is called the opening of the Fallopian tube, or, in other words, if the water is injected into the vagina and is not allowed to return there is danger that it may enter the uterus, and pass out from the uterus through the Fallopian tube into the peritoneal cavity. This must be remembered in giving a vaginal douche. A nurse is never called upon to give an intra-uterine douche.

It is now necessary that I should describe to you the method of using the catheter. Catheters are made of various materials. It is very difficult to pass a very flexible soft rubber catheter. They must not be too flexible or else collapse will take place and it will be impossible to get the catheter to pass through the urethra. If you fail to pass a soft rubber catheter you should then attempt to pass either a glass, celluloid, or silver catheter. I have seen nurses fail with a soft rubber catheter and, as a consequence, give up without making any attempt to use a different instrument. A doctor should learn to pass a catheter without exposing his patient,

and a nurse may learn to pass it without exposing the patient, but if she is unable to do so the patient must be exposed for the purpose. The slit-like orifice is then readily seen if the lips are held slightly apart, the catheter is gently passed onwards, keeping in mind the fact that it must go inwards and then curve upwards if the bladder is in its normal position, or that it must go inwards and then backwards if the bladder is displaced. No force should be used; the catheter should slide in without difficulty. When the urine has ceased running the finger should be placed upon the end of the catheter and the instrument should then be withdrawn. When the finger is placed upon the end of the catheter, or (if it is soft) pinched between the thumb and finger, urine cannot escape on to the bedclothes but remains in the catheter until it is allowed to run into the dish used to catch it.

I have next to speak regarding the examination of female patients. When it is necessary for the doctor to examine a woman two things should be attended to. In the first place, the bladder should either be emptied or a catheter should be at hand, thoroughly sterilized, so that the doctor can empty the bladder himself without delay, and in the second place, the bowels should have been evacuated by an enema. It is also desirable that a purgative should be administered the day before in order that all hard, or scybalous, or ball-like masses may be removed from the interior of the intestines. The patient should not be allowed to urinate unless the nurse has instructions to have her do so, because, sometimes a very important part of the examination consists in the withdrawal of urine from the bladder by the physician himself.

There are several positions that are used for certain purposes. The first position with which you should be acquainted is the Sim's position. A great many nurses place patients incorrectly—they do not understand correctly what the Sim's position requires. The left arm of the patient must always be placed underneath her so that it is hanging over the edge of the table behind the patient. The patient is turned half on her face, the right knee is drawn up a little further than the left one but both knees must be well drawn up. A great many place the arm to the front of the patient or underneath her. In this way the chest is raised too much, or the patient is not sufficiently tilted over on to the face and, as a consequence, the bowels do not fall forward enough to permit of the entrance of air into the vagina. There is a speculum called Sim's speculum that is intended for use in this position. This should be at hand for all examinations.

The next position about which it is necessary to know something is what is called the dorsal position. The patient is placed upon her back, both knees are drawn up and separated so that the bi-manual examination, or examination with two hands, can be carried out. This is the position that is the most frequently used in this country. For an examination in this position a bi-valve, or two-bladed, or a tri-valve, or three-bladed, speculum is used.

These then are the two positions utilized for the purpose of examination. There are other positions used for certain operations and I will speak of these later.

Vaginal Examination.—What instruments should be ready for carrying out such an examination?

The cylindrical, or Ferguson's, speculum, the bi-valve or tri-valve specula, the Sim's speculum—these are all instruments for opening the parts to allow of ocular inspection of the cervix uteri or neck of the uterus and the vaginal wall. The view may oftentimes be obscured, and, as a consequence, it is necessary to have little tampons, or wipes, made of absorbent cotton, ready for use to wipe away discharges. These little tampons must not be made larger than a walnut. A forceps must be ready with which to grasp them; this forceps is called a dressing forceps.

Another instrument that must be at hand is a sound. The sound is used for ascertaining the length of the cavity of the womb or uterus. A tenaculum, or two-bladed instrument, with a hook on each blade to catch hold of the neck of the uterus and hold it steady, may also be required. At times it is impossible to introduce the sound without the aid of this little instrument.

We then have a complete list of specula, sound, dressing forceps, tenaculum, catheter and wipes.

SPECIAL OPERATIONS.

Curettement.—For curettage the patient does not require to have the external genitals shaved. It is necessary for the nurse to prepare douches, one to contain the antiseptic solution, and the other to contain plain water. The surgeon will require to wash the vagina and, therefore, will require green soap for the purpose. If green soap is not available ordinary soap may be used, but should be cut into a small piece that will permit of its entrance into the vagina. It is necessary to have a sufficient quantity of water to permit of a very free washing of the parts. The bowels should be moved before the operation by enema which should be given four hours before the surgeon is expected to arrive. It is not necessary to give a purgative the day before, though this is sometimes ordered. Iodoform gauze should be cut in one continuous strip, wide enough to be strong but not so wide as to be very bulky. This is intended to serve as packing for the interior of the uterus.

An operating table should be arranged in a good light. It is not advisable to carry out this little procedure on the bed. A dish should be placed ready to receive the water used in washing. When a regulation operating table is used this is not needed. The leg pieces then furnished with the operating table serve to hold up the limbs as the patient is usually placed on her back. If the operation is done on an ordinary table it will be necessary to use the Clover's crutch. Clover's crutch is an instrument that consists of two bands

intended to encircle the limbs, and these bands are joined together by a solid iron rod intended to keep the knees apart. To hold the knees upward towards the head, straps of leather are attached to the cross pieces. These straps of leather are padded where pressure comes on the neck of the patient. The crutch should be applied so that the pieces encircling the limbs are placed below the knee. The limbs are not to be raised in position until after the patient is under the influence of the anesthetic.

As in all other cases in which it is necessary to administer an anesthetic, the patient should not be allowed to eat a meal for some hours before operation. If the operation is done about 10 a.m. the patient may be given a glass of milk early in the morning.

It is wise to supply a T bandage; some operators use them with a sterilized pad over the external genitals. After the operation has been completed the patient is washed, and the pad applied, and put back in bed.

It often happens that a good deal of pain in the back is produced by the intra uterine packing. In these cases there is no contra-indication to the use of opium. One-quarter of a grain of morphine will make the patient comfortable.

It is usual for the surgeon to remove the packing within twenty-four or thirty-six hours. To carry this out he requires a pair of dressing forceps and a small dish into which the gauze may be placed as it is removed, to prevent soiling of the bed linen. The urine should be drawn off by catheter until after the packing has been removed.

Before the surgeon begins it is advisable for the nurse to place a towel under the patient's buttocks to protect her nightgown. After the packing has been removed it is usual to administer a douche of some antiseptic solution, to be followed by water, in order that the delicate mucous membrane of the vagina may not be too much irritated by the retention of the antiseptic fluid.

Two untoward results may follow curettage: general peritonitis and septic inflammation, liable to produce suppuration. General peritonitis following this operation is liable to be fatal. It is a very serious complication. We generally look upon a little elevation of temperature with the same amount of anxiety as we do the distention of the abdomen that is indicative of peritonitis. Should the temperature not remain normal the surgeon should be immediately informed of the fact.

As the operation is but a simple one, it frequently happens that the surgeon makes but a few visits, and when he does not hear from the nurse he supposes that everything is going on favorably. The patient is usually kept in bed for about a week. The nurse should see to it that the bowels are moved every day or every second day.

Perineorrhaphy.—How is a patient to be prepared for a perineorrhaphy, or the operation for renewing the perineum, or the operation for repairing a tear that has occurred through the perineal body?

The field of operation here must be prepared as is the field of other operations. Owing to the fact that we have a sensitive mucous membrane to deal with, that is liable to be irritated by too much rubbing and by too strong solutions, we must endeavor to disinfect the parts with more care than we might think of using over a portion of the ordinary skin. It does not do to scratch the parts with a harsh nail brush; it does not do to use very strong antiseptic solutions; it does not do to use soap too many times. The patient should be prepared by having the hair shaved off the labia, unless otherwise ordered by the operator. It is quite unnecessary to shave the hair from the pubes, or the portion above the pubic bone. One operator once said to a nurse that she should not have shaved the hair off the parts, and she asked him why. He told her to try it on herself and see how she liked it. When the hair begins to grow it is liable to cause a good deal of discomfort and irritation. It is wise, however, that the hair should be shaved from the parts that are to be cut into. After the shaving has been completed soap and water should be used to continue the cleansing of the external genitals. A douche should then be given, of bichloride of mercury 1 in 2, 3, or 4000, and this douche should be followed by water in order that the irritating fluid may be washed away from the tender mucous membrane.

The bowels should be moved by a purgative, given the day before, and at least four hours should intervene between the time of operation and the time at which the last enema is given. Unless these rules are observed a great deal of unnecessary annoyance will be given to the operator by the continued action of the bowels during the operation. Sometimes a nurse gets desperate and has not patience to wait until the purgative shows signs of acting. As a consequence, she gives another dose; diarrhea is produced, and this diarrhea continues for many hours. The patient's danger is increased as a consequence of this frequent action of the bowels during the performance of the operation. Under such circumstances it is more difficult to prevent septic infection of the wound. In such cases I usually wash out the rectum and then place a plug of cotton inside the anal orifice.

The patient is now ready for the operating table. She should be placed in the dorsal position, with the knees drawn up so that the feet are out of the operator's way. This drawing up of the limbs is carried out after the patient is under the influence of the anesthetic. The feet should be covered with sterilized towels, or sterilized leggings drawn on over the stockings. A rubber douche pad should be placed beneath the patient unless the operating table is already arranged in such a way that the water from the douche, applied over the parts, does not wet the floor. In every case a sterilized towel should be placed beneath the patient.

The operator will again wash the parts and the nurse must have ready two douche cans, one containing the antiseptic solution, and one containing water, each of a proper temperature, not too hot, and green soap and a clean spoon for dipping it out.

After the operation she will be called upon to dry the patient, to apply a T bandage to keep the dressings *in situ*. You will be taught by others how to make a T bandage. If the patient's upper clothing has become wet it is the fault of the nurse. She has no right to allow the patient to be so badly placed for operation. I am constantly annoyed by having to look after this little detail. The nurses should get the patients in position without any assistance from the operator. Every time the operator attempts to move or lift a patient he again soils his hands and the danger of septic infection of the wound is increased.

The patient's knees are now brought down, the bandage thrown about them to keep them together, and the patient is placed back in bed. The urine must be drawn off for at least forty-eight hours unless instructions are given to the contrary. Urine must never be allowed to trickle over a fresh wound. It is never wise to use a catheter for longer than five days after these operations. The bowels must be moved according to directions. If the operation has been performed for a complete tear of the perineum, extending back into the intestine, it will be necessary to move the bowels daily by means of a carefully administered injection. If the fecal matter is allowed to accumulate it is liable to tear down the recently united parts when an evacuation does occur.

Wounds in this neighborhood must be kept dry, No water should be used unless ordered by the doctor in attendance. If the patient begins to menstruate the doctor should be informed of the fact. If a douche into the vagina is to be given, the nurse must remember that now the passage, after its repair, goes downwards and backwards at an angle of about 60 degrees. Great care must be taken in passing the nozzle to prevent injury to the newly united parts. The tip of the nozzle should be made to touch the parts above and not the parts below as it is being pushed onwards into the vaginal cavity. No antiseptic solution should be used under any pretext, unless specially ordered by the doctor in charge. A plain water douche is not likely to do any harm, if properly given, but an antiseptic solution may put a stop to the healing process and interfere with union by first intention. The pads must be changed whenever soiled, and they should never be allowed to remain until they are stuck to the edges of the wound. The hands of the nurse must be cleansed each and every time before she touches the patient about these parts.

The removal of the stitches generally takes place about the fourteenth day. The patient is frequently permitted to get up and walk about before this time. She has her own reasons for not wishing to sit down. When the stitches are removed good light will be required, and, if the sunlight is not obtainable, artificial light must be supplied. It is better to have the patient placed on a table in the dorsal position, with the knees well drawn up. The nurse is frequently required to hold back the labia and to assist in keeping the patient's knees apart. The removal of the stitches,

under such circumstances, is somewhat painful. The patient is, therefore, not to be informed of the time set for the performance of this operation. After the stitches have been removed a little borated vaseline, or iodoform and vaseline, or zinc ointment, is frequently ordered and the nurse is instructed to apply it with the finger over the site of operation, unless the skin edges have become completely united. This ointment prevents irritation of the part by the urine.

Trachelorrhaphy.—This is the operation for repair of a tear in the neck of the womb, or uterus. Much of the preparation of the patient is similar to that required for the operation of perineorrhaphy. The hair does not require to be shaved from off the external genitals, unless the operator particularly desires to have it done. Some operators peform this operation with the patient lying in the Sim's position, or the position on the left side, while others prefer performing the operation with the patient in the dorsal position, or the position on the back. The same precaution should be taken regarding the unloading of the bowels and the same interval should be observed between the administration of the last enema and the time set for operation.

Bichloride douche and plain water douche will each be required, and it is therefore necessary to have two douche bags to save the time of the operator, and reduce the time that the patient is required to remain under an anesthetic. Everything should be done to minimize the period of anesthesia in all operations. The operator will require a sufficient quantity of warm water to trickle over the part during the performance of the operation, in order that the field may be kept free from blood and that he may be thus enabled to see what he is doing; as a consequence of this, sponges are not required.

As the vagina is usually packed with iodoform gauze it is not necessary to put on a T bandage and pad, as is done after the performance of perineorrhaphy. The packing remains *in situ* about five or six days, and must never be disturbed except by special order of the surgeon in charge. He should be kept informed, however, of its presence so that it may not be allowed to remain for too long a time. While this packing is in place it will be necessary to remove the urine from the bladder by catheter, unless otherwise ordered.

Some patients are able to pass the urine by turning on the hands and knees. In this way the urine trickles away from the vagina and does not wet the gauze. If the gauze placed in the vagina is allowed to become saturated with urine, the healing of the torn lips of the womb will be interfered with. I have sometimes held the small blade of a Sim's speculum underneath the urethra and have allowed the urine to be passed in the natural way; it thus trickles down the blade and does not wet the gauze in the vagina.

Should menstruation come on, the surgeon in charge must be informed of the fact. It will usually be necessary to remove the

gauze and to use vaginal douches of plain water so that the menstrual blood may not be allowed to remain in the vagina for any considerable length of time.

It is usual for a surgeon to remove the stitches about the tenth day. To do so the patient is placed on her left side, in the Sim's position, and the nurse will be required to hold up one side of the buttock and to draw back on the Sim's speculum, that has been inserted into the vagina, in order that the surgeon may see the field of operation. The patient must be placed in a good light or an artificial light must be supplied. All these points must be thought out by the nurse to save the surgeon's time.

LECTURE III.

OPERATIONS CONTINUED.

Vesico-Vaginal Fistula.—This is a condition produced, as a rule, by child-bearing; the long-continued pressure of the parts of the child cause a sloughing, or death, of the parts between the bladder and the vagina, or the vesico-vaginal wall. As a consequence of this sloughing a hole remains, and, as a consequence of this hole, urine trickles from the bladder uncontrolled. It is a very wretched condition for any one to be in and requires surgical aid for its cure.

The operation is performed by different operators with the patient in different positions. One operator will perform the operation with the patient in the Sim's position, on the left side. I myself prefer to perform the operation with the patient in a position where she is elevated on boxes covered with pillows, in such a way that she lies on her abdomen, with the thighs hanging over the end of the box, so that the knees do not touch the table. Pads must be placed over every portion of the hard upper surface to prevent injury to the patient. If the knees are allowed to touch the table on which the boxes rest a sloughing may be produced over the knee cap. The head must be slightly inclined downwards from the hips. The anesthetic can readily be given in this position. I have, on several occasions, performed the operation without the assistance of an anesthetist. If the nurse does not exactly understand the position required the surgeon can easily make a small sketch with pencil and paper to illustrate his meaning.

For this operation the external genitals should be shaved; the same cleansing process will be required as for the former operations. After the stitches have been placed, gauze is sometimes put into the vagina. This must on no account be touched; the surgeon must remove it himself in order to prevent any disturbance of the stitches. A self-retaining catheter is placed in the bladder, by the surgeon, before the patient leaves the table, or he gives the nurse instructions to place the same immediately after her removal to bed. The catheter is supplied with a rubber tube that conducts the urine to a small basin that is allowed to remain in the bed, or under it. This catheter is a constant source of anxiety to both day and night nurse. It must be frequently inspected to see that it is discharging the urine. If it is not discharging the urine it must be removed in order to ascertain the nature of the obstruction before the bladder

has been allowed to become filled with urine. Such filling of the bladder is liable to produce a leakage at the site of operation and such a leakage renders useless all that has been done. The catheter must be removed once in twenty-four hours for cleansing purposes. It is advisable to place it in a solution of nitric acid and water to dissolve the particles of lime and the encrustation of salts deposited upon it. If the solution is too strong, or the catheter is allowed to remain too long, it may be destroyed. The patient is kept in the semi-prone position for some days after the performance of the operation. This is done to keep the urine to the front of the bladder instead of at its posterior part over the site of the operation.

The stitches require removal, and again the patient must be placed upon a table in a good light so that the operator can see what he is doing. A Sim's speculum is again passed in and the nurse is required to hold up the buttock on the upper side. The patient should never be allowed to pass urine voluntarily until after the surgeon says she may be permitted to do so.

Other Vaginal Operations.—There are other operations that may be performed upon the vagina. The nurse must ask the operator as to the position he prefers.

After many of these operations considerable oozing may continue for the first twenty-four hours. This is not alarming, and a little pressure will frequently cause it to cease. If there is much oozing the surgeon should be notified, especially if it has no tendency to diminish, but has rather a tendency to increase. If the effect of such a hemorrhage on the pulse is noted, the surgeon must be informed of the fact without delay. Hemorrhage shows its effect upon the pulse by increasing its rapidity and softness. The rapidity of a patient's pulse, after any operation, should rather diminish than increase.

The pads placed over the vagina, for any of these operations, must be frequently changed. No spot of blood must be allowed to remain either on pads or clothes, or bedclothes, and the skin around the seat of the operation must be carefully washed off if it has been blood stained. Water should not, however, be allowed to come in contact with the wound.

Some use powders. These are dusted over the surface of the wound. I seldom use them, but frequently order the application of an ointment to protect the surface of the wound from the urine. The ordinary zinc ointment of the British Pharmacopeia is as good as any other. The ointment should be freshly prepared by the druggist from whom it is obtained. It should be applied when the use of the catheter is given up.

Vaginal Hysterectomy.—This is the operation by which the whole womb is removed. For this, the pubic hair should be shaved as well as the hair on the external genitals, so that the whole skin about the vaginal orifice may be most thoroughly cleansed. As the peritoneal cavity has now to be entered it is desirable that

extra vigilance should be taken by the nurse to cover up everything that is liable to contaminate the operator's hands, and to thoroughly cleanse everything with which his hands must, of necessity, come in contact.

Some operators ask the nurse to pack the vagina with iodoform gauze the day before the operation. A douche is first given, either of carbolic acid or bichloride of mercury; a Sim's speculum is then inserted, with the patient on her left side, and iodoform gauze packed up into the passage until it is fairly well filled. In using gauze packing the nurse must be careful to see that it is of sufficient strength to allow of considerable tension without tearing. If gauze should tear during its removal, a portion of it would be left behind. I have known this to occur. It is especially necessary that this little point should be attended to in cases in which intra-uterine packing is required, and in cases in which gauze packing is placed in the abdominal cavity.

For the operation of vaginal hysterectomy an assistant will be required by the doctor, and very likely the nurse will require an assistant. Extra basins should be provided to satisfy the requirements of the case. A T bandage will be needed. A douche of bichloride and of sterilized water will be required. The patient must be thoroughly purged the day before, and one or two enemata should be given to thoroughly empty the rectum, at least four hours before the time set for operation. A special care must be taken that the patient is well purged several hours before the operation. After the purgative has been administered she should be kept upon liquid diet. The danger of the operation is very much increased if the bowels are permitted to act at the time of its performance. Most operators place a tampon in the rectum after the vagina has been thoroughly sterilized in the usual way. This tampon should, therefore, be ready at hand. A good-sized tampon is required, or better still, two or three medium-sized tampons fastened with strings of sufficient length to prevent them from disappearing in the bowel.

The operator will require a sterilized gauze sponge, around which a piece of sterilized iron wire has been placed. This sponge is to be put up into the abdominal cavity after it has been opened into behind the neck of the womb, to prevent the intestines from coming down. The wire is placed to distinguish it from all other tampons and to prevent what might otherwise occur—inadvertent snipping of the thread during the performance of the operation.

This operation is performed by means of heavy silk ligatures or by means of clamps. When clamps are used the ends of the clamps are allowed to protrude from the vaginal opening between the thighs. They must not be interfered with by the nurse. When the urine is being removed by catheter, care must be taken not to disturb the clamps. The operator winds sterilized gauze about them to keep them together, and packs gauze up into the vagina around them to prevent the intestines from coming down. This gauze

will become soiled, but the nurse must make no attempt to remove it. Extra pads must be kept on either side and behind and in front to catch any oozing blood or serum, and to protect the soft parts of the thighs from excessive pressure. It is not wise, in these cases, to attempt to keep the thighs close together.

The nurse must not be alarmed at oozing in such cases, unless the pulse shows signs of hemorrhage. A great deal of serum comes down from the peritoneal cavity itself and mingles with a small quantity of blood, and the discoloration of the fluid naturally gives rise to the idea that hemorrhage is going on. A good operator will always wait until every bleeding point of importance has been ligatured or clamped; the novice frequently fails to do this, and, as a consequence, much greater responsibility is placed upon the nurse.

One of the great dangers of this operation is hemorrhage, and the hemorrhage is much more liable to occur when the patient has been operated upon by a novice than when she has been operated upon by a skilled operator. When hemorrhage does occur there is but one thing to be done, and that is, immediate notification of the surgeon. The nurse can do nothing more. Elevation of the foot of the bed assists but little. The surgeon, if he be wise, will immediately have the patient re-anesthetized, will remove all the packing, and will again inspect the field of operation until the erring vessels have been controlled.

The catheter must always be used after a vaginal hysterectomy has been performed, if clamps are left *in situ*. The patient cannot be permitted to turn on her face, and, unless a speculum is used, as I have mentioned before, the catheter must be used in cases in which either clamps or ligatures have been employed.

The bowels must only be opened according to the order of the surgeon in charge. Opiates must only be given when ordered. It is well for the nurse to speak to the attending surgeon about the administration of opiates before he leaves the operating room. He frequently leaves the matter to her discretion so that, during the long hours of the night, she may be permitted to administer a hypodermic injection of morphia, if the patient is being injured more by the loss of sleep than she may be by the administration of the anodyne. The nurse should also speak to the attending surgeon, from day to day, regarding the administration of a purgative or the giving of an enema. Any appearance of distention of the abdomen must be reported at once unless the nurse has been given special orders regarding the matter.

The operation of vaginal hysterectomy also belongs to the class of cases dealt with under the head of abdominal surgery, owing to the fact that the peritoneal cavity has been entered.

The clamps are usually removed by the surgeon within thirty-six or forty-eight hours; no special preparation is required for this. It is done while the patient is still in bed. The gauze packing is not removed until the sixth or seventh day after operation; a special preparation for this is required. It is necessary to place

the patient upon a table in a good light in order that the packing may be renewed. Preparation should also be made for the administration of a douche by the surgeon himself. Plain water is usually used, and the small blade of a Sim's speculum is inserted into the vagina to permit of the ready outflow of the water. A wise surgeon never relegates this task to anyone else. At the second removal of the packing he may perhaps permit the house surgeon to do the work for him. Stronger adhesions have, by this time, formed.

When daily vaginal irrigation is required the nurse may be asked to do it. She must see it done and learn from the surgeon all the important details before she attempts to carry out the instructions. When one nurse has undertaken such a duty she should never relegate it to another without permission. A great deal of damage may be done and a life may be lost owing to a neglect of this precaution.

When ligatures have been used the nurse may be requested by the surgeon, to pull upon them daily until they come away. Some ligatures do not loosen until the sixth, seven or eighth week. No attempt should ever be made to cut off the ends; they are left long for a purpose.

Hemorrhoids.—Hemorrhoids, or piles, are frequently met with in women, and are frequently operated upon. The poisoning that takes place after the performance of this operation is not to be laid to the door of the nurse as much as at the door of the surgeon. An improperly tied ligature may kill the patient. When the ligatures are tightly tied the patients do well, and when the ligatures are loosely tied damage is likely to result. These operations must, however, be performed with aseptic precautions.

It is impossible to scrub, to any extent, the tender mucous membrane lining the surface of the anus and rectum. The hair about the parts should be shaved and the skin thoroughly disinfected. The operator will wash out the rectum, and provision should be made by the nurse for the carrying out of this little detail. Some operators require a rectal tampon, and this should be provided. These tampons must not be too large; it is better to have them small and to have several of them. If they are made too large they are liable to tear some of the parts ligatured, during their removal after the operation has been completed.

It frequently happens that there is a little oozing after hemorrhoids have been tied. A pad placed tightly up against the anus, with two or three towels folded and placed between the thighs and the thighs then placed closely together, will produce sufficient pressure to prevent any further hemorrhage.

After piles have been ligatured patients suffer pain; this pain is sometimes intense. I prefer, for its relief, a 10 per cent. solution of the oleate of cocaine. I leave instructions with the nurse that this shall be applied by means of a camel's-hair brush. This local application relieves the pain better than the administration of a

hypodermic injection of morphia. A hypodermic injection may be given at the same time to assist in relieving the pain. In such cases it is scarcely necessary for the nurse to obtain the permission of the operating surgeon before she administers the opiate. A good nurse will, however, obtain her instructions from the surgeon before he leaves the case.

It sometimes happens that, after the operation for piles, or hemorrhoids, the patient is unable to empty the bladder. This is especially the case if morphia is required to relieve pain. The catheter must then be used. Its use must not be delayed beyond a period of eight or ten hours. Nurses sometimes allow patients to go for twelve or fourteen hours in the hope that the bladder will empty itself. Inflammation of the bladder is liable to ensue upon great distention of the organ. If the patient is unable to pass the urine within eight hours she is scarcely likely to pass it at all without the assistance of a catheter. The greater the amount of distention of the bladder the less the likelihood that it will be emptied naturally.

The pads placed over the anus must frequently be changed. The parts must be kept scrupulously clean. The bowels are generally kept confined for two or three days and are then usually moved by enema. Sometimes an injection of sweet oil is given an hour or two hours before the injection of water. It is not wise to use turpentine or soap suds for the purpose of moving the bowels after the performance of an operation upon the rectum. Plain water is all that is required if given in sufficient quantity. After the bowels have been moved, a purgative is usually given to produce a daily action without the use of an enema.

Other Operations upon the Rectum.—There are other operations performed upon the rectum. One of the most frequent of these is operation for *fistula in ano*, as it is called. This is an operation intended to close up a sinus, or tract left after the discharge of an abscess that has formed around the lower bowel.

The operation is usually performed with the patient in the Sim's position, on the left side, the sinus or tract is slit up and gauze is packed in to keep it open, or it may be touched with pure carbolic acid after it has been thoroughly scraped, and the skin may be stitched together. If oozing continues, pressure by means of a pad and a towel and tightened thighs will usually control it. It frequently happens that the nurse is required to pack the sinus once or twice a day after the first week has passed by. She must see this done by the surgeon and learn how to do it.

Removal of Cancer of the Rectum.—When a large portion of the rectum has been removed a nurse must be careful to do nothing without the fullest instructions from the surgeon in charge. Hemorrhage must be watched for and reported. Anodynes must be administered to relieve the pain. The bowels must be left confined until orders are given for their evacuation. The preparatory treatment for such a case must be carefully attended to, bowels

must be freely purged, if possible, at a considerable interval before the time set for operation, and two or three enemata must be given to thoroughly wash out the lower bowel, at least four or five hours before operation. Patient should be kept on fluids after the operation. The pads must be frequently changed and the patient's clothing and the bedclothing must be kept scrupulously clean.

Amputation of the Breast.—When a breast has to be amputated the parts must be thoroughly disinfected; the hair in the armpit should be shaved off; plenty of sponges should be supplied. The patient's clothing should be removed from the side on which the operation is to be performed, and a macintosh, covered with towels, should be placed over the clothing to keep it from becoming soiled.

These operations are oftentimes accompanied by the loss of a considerable amount of blood. Arrangements should, therefore, be made to convey the blood away from the patient. It should not be allowed to run up under her back.

I am not partial to rubber goods. I believe that it is difficult to sterilize them. As much may often be done by the judicious tilting of a table as can be accomplished by means of the rubber goods.

After the operation has been performed a bandage will be required. I prefer the ordinary breast bandage that can be readily opened without disturbing the patient. The long wide bandage, that is so frequently used, is difficult to apply and equally difficult to remove. If the ordinary breast binder, with shoulder straps, is used, it can be undone and the wound can be inspected from time to time, and the pads changed when soiled. This can be accomplished without any disturbance of the patient and with but little loss of time.

The administration of an opiate is frequently required after this operation. The urine is passed naturally and the movements of the bowels are attended to as in any ordinary case.

Abdominal Operations.—We now come to the subject of the surgery of the abdomen. When the abdomen is opened the success of the operation depends largely upon the nurse in charge of the case. Nurses should remember this. In no other department does a greater weight of responsibility rest upon their shoulders.

The operating room, whether in a hospital or a private house, should be thoroughly cleansed. The woodwork should be washed off with carbolic acid, and all wash basins should be thoroughly disinfected. It is unnecessary to fumigate a room except after an operation upon a septic case. On one or two occasions I have asked to have the operating room repainted after very virulent septic cases have been taken into it. Such operations should not be permitted to take place in the operating room of any well regulated hospital.

There are two articles that are used for fumigation, one is formaline and the other sulphur. For fumigation with formaline a special apparatus has been devised. A room may be readily

fumigated with sulphur without the aid of any special apparatus. The sulphur should be placed in a vessel, set upon a brick, in the centre of a tub partially filled with water. This precaution is taken to prevent damage by fire. The room must be shut up and cracks filled with cotton batting. It is desirable to pour steam into a room to mingle with the sulphur fumes.

The nurse should remember that sulphur fumes will destroy pictures and will bleach articles that may be left exposed. Silverware will also be injured.

Nurses.—Nurses are dressed in special robes, with arms bared up to and beyond the elbow. They may have caps to cover their hair or not. I do not consider such caps necessary. Nurses should bathe their hair frequently enough to keep their heads clean. The nurse must see that the gowns required by the operator have been sterilized and that they are in order. Some operators use gowns more after the style of a postage stamp on a sheet of paper, while others use gowns that, like an official envelope, cover them entirely. Some operators change their clothing and put on a suit of white. Many of these garments are made with tapes to take the place of buttons; buttons break and come off. All the garments used are sterilized in a sterilizer.

Instruments.—The nurse may be called upon to set out the instruments. She should endeavor to make herself familiar with the names of these. If the operation is performed in a hospital the house surgeon frequently attends to the preparation of the instruments. The nurse should, therefore, find out, whether this duty is expected of her or not. If she is required to prepare and set out the instruments she should endeavor to get an exact list of what may be required. It is unnecessary for me to tax your memories with these lists.

When I intend to perform an operation at a private home, I frequently send my case of instruments to the nurse the day before and send her a list of the instruments that will be required for this operation. She has instructions to boil the tins in which the instruments will be put and to fill these tins with sterilized water a short time before the hour set for operation. She is instructed to put the instruments required into one of the sterilized bags supplied; to drop this, with the contained instruments, into a pot of water boiling on a stove. They are to be allowed to boil for ten minutes, to be then lifted out and taken to the operating room. The silk thread and silk-worm gut are also boiled in an aluminum box, specially made for the purpose; neither the silk nor the gut are to be touched by the nurse, unless specially ordered to do so. After her hands have been thoroughly disinfected the mouth of the bag is opened and the instruments are laid out in the aluminum tins, disinfected, and ready for their reception. She then threads the needles with silk-worm gut and with silk, if directed to do so.

The sponges prepared from the sterilized gauze are also boiled for five or ten minutes in the bag in which they were originally

placed. This bag is also brought up to the operating room and when cool enough, and when the nurse's hands have been thoroughly disinfected, is opened and the number of sponges required for the first part of the operation are placed in a sterilized basin filled with sterilized water. The sponges are used wet, after the water has been thoroughly squeezed from them. No one but the operator, his assistant, and one nurse are ever allowed to touch a sponge, and then only after the hands have been thoroughly disinfected. Too much care cannot be observed in this respect. I frequently see nurses wash their hands, move a patient, or assist in some other duty, and then attempt to return to the sponge bag without careful re-sterilization. Some of them may dip their hands carelessly into the solution of carbolic acid or bichloride of mercury and think this a sufficient precaution.

It is much safer to have two nurses at an operation of this kind. The one nurse, who has charge of the instruments and sponges, is then not allowed to do anything else. I generally insist, in private practice, on having two nurses and oftentimes, when two cannot be obtained, I allow no one to touch the instruments and sponges but myself.

I have, for a considerable time, given up the use of any but gauze sponges. The gauze of which the sponges are made undergoes thorough sterilization. It is sterilized three times, at intervals of twenty-four hours. This may be entirely unnecessary but the repeated sterilization is carried out in order that all spores that have not developed may be destroyed after their development has taken place. I would like to teach nurses and students that, upon a pinch, an operation may be safely performed with sponges made from pieces torn from a clean sheet that has been boiled for ten or fifteen minutes. I am satisfied that such sterilization will prove quite sufficient as far as the sponges are concerned.

The gauze sponges are kept dry in a series of twelve small ones and two large flat ones, wrapped either in a sterilized towel or placed in a sterilized bag. These, as I have already stated, are boiled from ten minutes to half an hour before the operation.

Gauze used for dressings is also sterilized three times at intervals of twenty-four hours. This is also kept dry and wrapped in a sterilized towel.

Disinfection of the Hands—The hands of the nurse must be scrubbed and cleansed just as the hands of the operating surgeon. Plenty of green soap and hot water must be used. No one can wash the hands in cold water; they must be washed in hot water and soaked in hot water until the skin about the nails begins to look like that of the hands of a washerwoman who has been dabbling in the washtub for some time. A single washing is not sufficient. The hands should be washed and then dried on a sterilized towel. The finger nails should be thoroughly cleansed, all filth removed from beneath the nails and from around the nails, and the towel first used should then be discarded. I once had a student pick a hole in

my train of asepsis by remarking that I used the same towel after I had cleansed my nails and wiped my knife on it. After the nails have been cleansed, the hands should be washed a second time with the nail brush, green soap and hot water, and plenty of each. More reliance should be placed on the scrubbing of the hands than on the action of any antiseptic solution. Better to remove the dirt than to render it inert and hide it.

Some skins will tolerate bichloride of mercury solution; others will better tolerate the carbolic acid solution. The carbolic acid solution, to be thoroughly effective, must be fairly strong, not weaker than 1-40. This solution is very irritating to some skins. Bichloride of mercury solution should be used of the strength of 1 in 2 or 3000. Bichloride of mercury may not irritate the skin but may salivate or keep up a condition of partial mercurial poisoning, that is likely to be eventually injurious. There can be no doubt that the bichloride of mercury solution is the most reliable of all the antiseptics used for the purpose of cleansing the skin. I am, however, as you see, a great believer in soap and water. When I watch the many surgeons about the operating rooms of our hospitals I am free to admit that there are few of them whose hands are prepared to suit me. Some men are too old to learn the principles of asepsis, and I am afraid that some nurses are so old before they enter the profession that they are self-opinionated and fixed in their habits and that they are, therefore, difficult to teach. Let the superintendents in charge lower the age limit.

I never perform an abdominal operation without washing my hands thoroughly at least three times. The third washing is usually required owing to the fact that some little detail may require attention before the final period has been arrived at, namely, the commencement of the incision.

During the operation, when the hands are covered with blood, they should never be immersed in bichloride solution. The blood is thus precipitated upon the skin in the form of albuminate of mercury and is difficult to rinse off. The hands should, therefore, be first rinsed free of blood in water before they are placed in the bichloride solution. A precaution that must be taken with sponges is to rinse them in cool water first to remove the blood. They should then be rinsed out of warm water before they are used. If passed immediately into hot water the blood is not so readily rinsed out of the meshes of the gauze.

LECTURE IV.

PREPARATION OF THE ABDOMEN.

The abdomen is prepared, in cases in which there is no urgency, in a different manner than when there is urgency. If there is plenty of time the preparation begins the day before operation. The hair is shaved off and a poultice of green soap is applied. This green soap is scraped off with a brush and a good lather is made. This is then washed off. The parts are now rinsed with turpentine, then with ether, then either 1-2000 bichloride of mercury or 1-20 carbolic acid solution. I myself prefer bichloride of mercury. A pad of sterilized gauze is then saturated with a solution of bichloride of mercury, placed on the abdomen and covered with a sterilized towel, and kept in place by means of a binder. This compress must be fixed with safety pins and perineal bands, or bands around the thigh, so that it does not slip off while the patient is sleeping. It is changed twice during the night. In the morning the parts are again scrubbed with green soap, washed off with water, with turpentine, with ether, and another compress of bichloride solution, 1-2000, applied exactly as before. I now insist on either washing the patient myself, or in having her washed off at the time of the operation. On one occasion a patient was brought into the operating room, and, in the absence of the nurse, the bichloride poultice dropped to the floor. The patient, thinking that this arose from her own carelessness, and not seeing me, picked up the poultice and re-applied it. The nurse, therefore, had no knowledge that this had ever been removed from the skin. I came to the conclusion that after that I would insist on a thorough sterilization of the skin over the abdomen during the period at which the patient was being anesthetized.

After the abdomen has been washed, in order that we may further protect the patient from the infection of out-lying districts, a piece of sterilized gauze is placed over the abdomen and this gauze is wet with water just before the operation is begun. The water causes it to stick to the skin. An opening is made in the gauze by the operator over the site of operation. In this way intestines and instruments do not come in contact with skin that cannot be thoroughly sterilized but with gauze that can. Towels are placed above to protect the clothing of the patient, and below to protect the blanket placed around her limbs.

It is wise to put on a clean undergarment of wool to keep the patient warm, unless the room in which the operation is performed is kept well heated. It is safer to have nothing about the patient but sterilized goods. A sterilized hospital night-dress is oftentimes all that is required for the upper portion of the body and sterilized leggings are required for the limbs. The patient should never be allowed to wear drawers. One can never tell when it may be necessary to reach the vagina or rectum, or when it may be necessary to clean away an evacuation that may involuntarily take place from the bowels when the patient is under the anesthetic. The nurse who leaves a pair of drawers on her patient does not understand her business.

If glass or metal tables are used it is often desirable to place warm bottles alongside the patient to prevent her from being chilled. It is impossible to place bedclothing beneath her and conduct the operation upon aseptic principles. The very blanket that is used to wrap the feet must be beyond suspicion, and the nurse must see to it beforehand that such a wrap is obtained and ready for use. The bedclothing must not be allowed to remain in the operating room at the time of operation, but must be immediately removed.

We are not so particular regarding the bed and mattress as we were a few years ago, so long as these are clean. Nowadays our Boards of Health insist upon the sterilization of mattresses after an outbreak of contagious disease, and, therefore, we are not likely to come across an infected mattress. This question of the mattress is of more importance in a private house than in a hospital, because the bed and mattress are allowed to remain in the operating room ready for the patient's reception after the operation has been performed. A new or sterilized blanket must be procured, and sterilized sheets. Old quilts must never be used on the bed of a patient who has just undergone a surgical operation, unless these quilts have been thoroughly sterilized. White quilts can be sterilized, but I doubt whether it is possible to sterilize the old-fashioned complex quilt, into which pounds of cotton batting have been stitched. It is sometimes the habit of friends to present such articles to a hospital. It is scarcely possible for them to give a more inappropriate present.

I have operated in a room in which flies were present in large numbers. It is not advisable to allow these visitors to be present; it is oftentimes a very easy matter to get rid of them. A thoughtful nurse will soon accomplish this. At certain seasons the ordinary house-fly bites, and a bald-headed operator is liable to break the chain of asepsis in his efforts to defend himself.

Rubber Goods.—Rubber goods have been advocated for use in cases of abdominal section, and, in fact, for use in a great many operations. They are intended to prevent soiling of the floor. They should never be required in a properly-equipped operating room. Operating tables are made that will carry off all fluids without difficulty.

I was, on one occasion, very much struck with the persistent odor upon my douche pad, peculiar to pus generated in the abdomen as the consequence of a fecal fistula, so frequently produced by appendicitis, and found that it was impossible to remove the odor until the pad had been thoroughly scoured with benzine. Boiling in bichloride solution, soaking in bichloride solution, soaking in carbolic acid solution, hanging in the fresh air, had no effect; the odor still remained. When the surface of the rubber was removed by means of benzine the odor disappeared. I concluded that a certain chemical change must take place as a consequence of the contact of the pus and the rubber. This little circumstance led me to consider the matter of rubber goods in surgical operations. Since then I have very largely discarded them. When they are used cover them with aseptic towels. Rubber goods are not much injured by boiling. After they have been boiled a number of times they are injured to a certain extent. Drainage tubes can always be boiled. Rubber tubes for irrigation can be boiled and then placed in a 1-20 carbolic solution.

Operation.—Everything is now ready for the commencement of the operation. The nurse must have seen to it that the anesthetist has everything that he requires, that he has a dish to use when vomiting comes on and towels to place about the patient to keep her from becoming soiled. It must not be necessary for the nurse to give any of her attention to the anesthetist from this time on. If two nurses are present one of them may be allowed to give him assistance.

The patient's knees must be fastened down to the table firmly, in such a way that they cannot be strangulated but so that they cannot be raised up. The bandage must always be placed above the knees and not below them, and must be pulled tight enough to prevent the elevation of the limbs when the bandage is stretched by the exertions of the struggling patient. The left arm should be fastened down by means of a "clove hitch" that you should learn to make. Unless the "clove hitch" is used the wrist is liable to become pressed and a congestion of the hand will be the result. The right arm the anesthetist sometimes desires free, in order that he may feel the pulse. This can easily be accomplished by fastening the arm upwards after it is bent at the elbow, but it must not be drawn up far enough to cause excessive pressure on the shoulder blade.

The sterilized towel is now removed from over the abdomen and the sterilized gauze is placed in position. The sterilized towels above, protecting the patient's clothing, and those below covering the blanket surrounding the patient's limbs, the operator's instruments can, in this way, be placed either above or below during the operation without fear of contamination.

The last precaution to be taken by the nurse is a thorough rinsing of the hands before the sponges are touched, and she must educate herself to "elbow" and "knee" articles, requiring removal

from one portion of a room to another, without making use of her hands. The hands must touch nothing but the sponges. They must be kept away from the handkerchief and spectacles, and must not be allowed to rest against anything.

After the sponge has become soaked with blood it is returned to the nurse. She should then place it in cool or lukewarm water to rinse out the blood, then pass it into warm water to warm it, and then it is ready to be returned to the operator. The water in the basins must be changed as often as needed. Some of the sponges are kept on one side ready for use but not in use, so that, if the case proves a dirty one, a certain number of sponges will remain unsoiled and ready for use during the latter part of the operation.

The operation being completed, the nurse may be called upon to finish the dressing if two nurses are present; if only one nurse is present the operator usually attends to this himself. The powder required for the wound should be kept in a duster covered with sterilized gauze. The dressings, having been previously prepared, are wrapped in sterilized towels. These are carefully undone and lifted on to the wound in sufficient quantity to answer the requirements of the case. The remainder is then covered over with a sterilized towel and set away for future use. A binder, that is placed in the dressing, is passed beneath the patient, after her back has been thoroughly cleansed and dried; care must be taken not to soil the binder, and it is sometimes necessary to pass two or three towels beneath the patient before the binder is applied, in order that it may be kept from touching the wet operating table.

A Dressing.—It is necessary for every nurse to know what constitutes a dressing.

One dozen sponges (one-half dozen large, and one-half dozen small), or one dozen small and two large flat.
One tube, each, of iodoform gauze rolls and iodoform continuous packing.
Iodoform or other powder as required for wound.
One dozen pads.
One binder.
Nine safety pins.

Enclose all in a sterilized towel and sterilize three-quarters of an hour.

After the binder has been pinned together, perineal bands should be placed to keep it from slipping up. Some operators use adhesive plaster and this is run across in two broad strips over the layer of absorbent cotton placed above the dressings. The adhesive plaster may be cut in the centre and reunited with pins or tapes to facilitate the opening of the dressings. The pins are

undone and the plaster is still left adhering to the skin. If the plaster is removed at each dressing the patient suffers considerable discomfort. I prefer the bandage without the plaster. The plaster is not aseptic, and, as I require each dressing to be undone within three hours, to remove the gauze next the skin that has, by this time, become soiled with oozing blood, the use of plaster is rather a nuisance. After the dressing has been replaced it is then seldom necessary to open it for at least twenty-four hours. I prefer that my dressings shall be undone every twenty-four hours in order that the wound may be momentarily inspected. In this way, a stitch that produces irritation may be removed before infection of other stitches has taken place. It is sometimes too late to do this after the temperature has become elevated.

Tube Cases.—I have now been describing the dressing of a simple case, in which no drainage has been used, and in which no gauze packing has been placed inside of the peritoneal cavity.

It is necessary that you should understand how to manage a case in which a tube is placed down through the wound into the interior of the abdominal cavity. Such tubes are intended to act as safeguards by assisting in the removal of fluids that are liable to collect, either from hemorrhage, or as a consequence of the irritation of poisonous material that has escaped at the time of operation. While they are placed as safeguards they may easily become dangers. A great deal depends upon the nurse in her treatment of such cases.

Every time that an attempt is made to drain the tube, or change the dressings around or over it, her hands must be thoroughly washed and disinfected with some antiseptic fluid. She must be careful not to touch anything after the hands have been cleansed unless they are cleansed again afterwards. When the bandage is lifted clean towels are placed above to cover the patient's clothing, below to cover the bedclothing, and at one side, the side upon which the nurse is intending to stand. These towels are sterilized and each patient has her own set. After the towels have been placed in position and the bandage has been undone, the nurse should again rinse her hands before touching the tube. Dressings are then lifted off with the fingers or forceps and the mouth of the tube exposed. A piece of rubber dam is placed over the tube end to keep any fluid, coming from it during the act of vomiting, from staining other dressings. This rubber dam must be kept clean. Iodoform gauze is usually placed over the mouth of the tube, and sometimes down into the tube, to assist in draining out the fluid. Some operators use nothing else for the purpose of draining; others, however, use a sucker of some kind.

As good a one as any is a new sterilized, large-sized, male urethral syringe, with a sterilized gum elastic catheter slipped over the end of it. With this the fluid may be drawn up. After use, the syringe should be rinsed in water and then placed in a 1-20 solution of carbolic acid until it is again required. If no such

sucker is used gauze packing is pushed down, with a large-sized probe, to the bottom of the tube. This packing is cut in strips and you must see to it that the gauze is of sufficient strength to permit of its removal without tearing. This gauze must be changed more frequently in cases in which there is a considerable amount of fluid to drain than in cases in which there is but a small amount.

The drainage generally diminishes after a few hours. I have the suction syringe used every fifteen minutes during the first hour after the patient has been put back to bed, if there is much oozing, then every half hour, and, as the fluid diminishes in quantity, every three, four, or five hours.

A nurse must never attempt to remove a drainage tube. The drainage tube should always be turned several times each way when it is drained at intervals of three or four hours unless a curved tube has been used. This is important as it prevents the omentum, the thin veil that covers over the bowel, from becoming caught in the holes that are placed on the sides of the tube towards the bottom end. Care must be taken in re-adjusting the bandage, not to allow it to press injuriously upon the tube. A sufficient number of gauze pads must be placed around it to prevent such pressure. Care must be taken not to allow a restless patient to disturb the dressings or tube. When the patient is semi-conscious, and gradually coming out from the influence of the anesthetic, she is liable to attempt to remove the drainage tube or to tear off dressings. While a drainage tube is *in situ* the patient should not be allowed to turn on her side.

Gauze Drainage.—Some operators use gauze drainage, and the gauze is either surrounded with rubber tissue or a rubber drainage tube is placed down through the opening to keep the deep portions of the wound from pressing to too great an extent upon the gauze. If such pressure is permitted the gauze does not drain. The nurse will frequently receive instructions that this gauze is to be withdrawn from time to time, perhaps at each dressing, to disturb the adhesions at the sides of the wound and permit a freer drainage. In drawing out the gauze care must be taken not to use too much force for fear of tearing it off. This duty is generally relegated to an experienced nurse or a head nurse in charge of a department.

The dressings must be changed as soon as they are soiled. It is never wise to allow such discharges to remain long about a wound. A nurse is sometimes tempted to wash off such a wound, thinking that this fluid is likely to soil the skin and produce a septic condition. Water, in such cases, is likely to do more harm than good; it distributes the poison. The antiseptic powder placed over the wound is generally sufficient to protect it. A little wiping off of any discharge, with a piece of dampened sterilized absorbent cotton, is all that is required.

When stitches look irritated the fact should be reported to the house surgeon, or to the surgeon in charge. If pus is present the fact should be at once reported. If any hardness, or unusual

swelling, or redness of the wound, appears, this fact should be reported. It is often possible for an operator to remove a stitch and to evacuate a collection of serum, that has become septic, before it goes on to the formation of pus. By this means the healing of the wound will be very greatly assisted.

Before the patient is placed in bed, the bed must be warmed with hot-water bottles. In some cases it is desirable that the patient should be wrapped in a blanket for a few hours. This blanket can then be taken off and the sheets used in the ordinary way.

After-Treatment.—In the after-treatment of cases of abdominal operation a great deal depends upon the nurse. Cases vary. When every precaution has been taken and every attention to detail has been paid, and the case is a clean one and unable to cause a self-infection of the patient, there should be no untoward symptoms. No cases should progress more satisfactorily towards a speedy convalescence than these.

There are cases, however, in which the nurse, or the doctor, or the atmospheric surroundings are such as to prevent this ideal convalescence. The patient's resisting powers may have something to do with it.

The nurse is now standing guard in the interests of both patient and surgeon and she must be able to read the signs aright. The temperature must be carefully watched. A low temperature with an increasing pulse is a bad sign. If an increase of temperature and an increase of pulse takes place during the first twenty-four hours after operation it is not so alarming. A high pulse, that continues high after the patient has been placed in bed, should always make one feel uneasy.

Vomiting, during the first twenty-four hours, is not an unfavorable sign, but vomiting that has ceased and recurred on the second or third day is always a symptom of grave significance.

Early pain is not of so much importance as continued pain, but it must be remembered that in some of the very worst cases there is an absence of pain. The patient may have a severe peritonitis without distention, but distention must always be looked for. I usually leave instructions with the nurse how to act under such circumstances.

There are certain cases in which operations have been done upon the bowels where the administration of a purgative is contra-indicated. The nurse should, however, be instructed regarding this important matter before the surgeon leaves the patient after operation. When there is no contraindication to purging, the medicines used for the purpose must be given early if they are to be effective. Enemata should be given to assist the action of the purgative. There are certain cases, however, in which the nurse will be instructed not to give an enema. If there is any doubt as to bowel perforation in any cases in which a drainage tube is used, it is always better to give an enema of ordinary water first before using the turpentine and soapsuds enema.

If the nurse has not received her instructions from the surgeon she should immediately report to him upon the appearance of the slightest puffing of the abdomen. If a house surgeon is in charge he should be reported to. The house surgeon then assumes the responsibility, and he, in his turn, if he is wise, will immediately report the change to his chief.

It is customary for nurses in charge of such cases to have tablets of digitaline and of strychnia for hypodermic use. When the pulse becomes rapid and weak, the two aforementioned drugs are frequently used. If injected in the form of the tincture of digitalis and of liquor strychnia they are very liable to produce irritation and perhaps suppuration. No such trouble will be met with if the tablets are used and the water, syringe and skin of the patient are sterilized.

If the drainage from the tube becomes much increased in quantity and is bright red in color, the house surgeon, or surgeon in charge, must be immediately informed of the fact. You can assure yourself that internal hemorrhage is going on, and the patient's life depends upon the promptness of your action.

So long as nausea and sickness of the stomach continues, the patient should only be permitted to rinse her mouth with plain or acidulated water. She should not be allowed to swallow it. It is useless to put fluids into the stomach when that organ will immediately reject them. The great thirst, usually met with, can be relieved, to some extent, by this rinsing of the mouth with water and by the administration of an enema consisting of some fluid intended for absorption. Hot saline solution (℥i-℥i) injected into the rectum, will be found useful for this purpose. Sucking of ice should not be permitted, unless the patient spits out the water resulting from the melting of the ice. If cracked ice is wrapped in a piece of gauze, and placed in the patient's mouth, and a pus basin, or similar dish, is placed under the patient's chin, the thirst will be much relieved while the stomach will be kept empty.

When vomiting becomes less frequent, small quantities of fluid may be permitted to enter the stomach. Hot brandy and water may be used for this purpose or, what is equally as good, one part of carbonated water and two parts of milk administered cold.

For the secondary vomiting, that occurs as the result of peritonitis, it is useless to give fluids. They accumulate in the stomach and are then ejected in quantity. But, as the patient craves for them, it is better to give them. They do no harm. All the harm that can be done has already been done by the infection of the peritoneum. If the vomiting ceases it does so as the consequence of the increased weakness of the patient or an improvement in her condition. We learn from this that, even with an elevated pulse and temperature, we do not consider the patient desperately ill if she is able to retain nourishment. But, with elevated or lowered temperature, rapid pulse, and continued vomiting, the chances are that the case may have a fatal termination.

All stitches must be removed by the surgeon, unless otherwise ordered. Strapping should be prepared by the nurse, ready to be placed across the abdomen, to assist in supporting the wound after the removal of the stitches. This strapping is usually applied by the nurse to save the surgeon's time. It is applied a few hours before he is expected to arrive for the purpose of removing the stitches. Adhesive plaster, of any kind that will "stick," will answer the purpose. It should be cut narrow at its centre, the part intended to go over the wound, in order that the air may not be kept from the wound, or the stitches be hidden so as to make it difficult to remove them. The wound should be protected by a strip of gauze beneath the plaster.

If the case has pursued an uneventful course the bowels should be moved upon the fourth day. The surgeon should be reminded of this fact by the nurse in charge, so that she may obtain her orders. After the bowels have been moved the patient is then placed upon a more liberal diet, and this diet is gradually added to until full diet is reached, about the sixth or seventh day after operation.

The later dressing of wounds must be carefully attended to. Wounds will not heal if "pussy" dressings are allowed to remain in contact with them. After a little inflammation in a portion of the wound it unites by second intention. This process will be very much facilitated by a washing and cleansing of the part and the frequent application of fresh dressings. Sometimes a stitch-hole abscess forms and empties itself, and the healing of the cavity will be very much hastened by the injection of a solution of peroxide of hydrogen, equal parts with water, or a solution of warm boracic acid, ten grains to the ounce. The peroxide of hydrogen has one advantage, namely, that it creates a formation of gas, and on this account points out the ramification of any particular sinus.

Patients should not be allowed to sit up until the surgeon in charge has granted his permission. Belts, made of different patterns, are often worn for some months after the abdomen has been opened, and it is advisable for the nurse to ask the surgeon what his wishes are in this respect. He may have a preference for a certain type of belt, or he may discountenance their use.

STANDING ORDERS

FOR THE SUBSEQUENT TREATMENT OF CASES THAT HAVE UNDERGONE AN ABDOMINAL OPERATION, FOR THE GUIDANCE OF HOUSE SURGEONS AND HEAD NURSES.

Distention. No Bowel Injury.

1. In any cases in which the abdomen has been opened and no bowel operation has been performed, on the first appearance of distention calomel is to be given, one grain every fifteen minutes until eight grains have been administered, and then two drachms of sulphate of magnesia or sal-rochelle to be given every half-hour until the bowels have moved. Occasional vomiting to be no contra-indication to the administration. Enemata to be begun after the first dose of salts and administered every half-hour in urgent cases and every hour in less urgent ones.

Distention Bowel Injury.

2. Cases in which the bowel has been repaired or in which much stripping off of the bowel has been necessary at the time of operation, must not be given enemata unless specially ordered. In case the slightest puffing shows itself the surgeon should be communicated with at once. In such cases when enemata are ordered and a drainage tube has been placed in the abdomen, an enema of plain water only should be given to ascertain the existence or non-existence of a perforation. If a perforation exists and remains unclosed the water of the enema will show itself at the drainage tube.

Rapid Pulse.

3. In case the pulse becomes rapid and weak, hypodermic injection of ten minims tincture digitalis and four minims liquor strychnia should be administered every two hours and the house surgeon and superintendent informed.

Hemorrhage.

4. If the drainage from the tube or vagina becomes increased in quantity and red in color the house surgeon in charge, or acting, should be immediately informed and the surgeon communicated with by telephone and the superintendent of the hospital made aware of the fact.

Vomiting.

5. After the administration of an anesthetic nothing should be given to the patient so long as the nausea and vomiting continues. The patient may be permitted to rinse the mouth with plain or acidulated water. The sucking of ice should not be permitted. For the vomiting ten grains of bismuth and ten of bicarbonate of soda may be administered every two hours in a little water. A little hot brandy and water may also be administered. For the secondary vomiting that occurs as a result of peritonitis it is useless to administer any drug.

Severe Pain and Hiccough.

6. No morphia to be administered unless upon special order, except in exceptional cases for severe pain and restlessness during the first night. In such exceptional cases one-eighth of a grain may be administered hypodermically. For severe hiccough the best remedy is ten to fifteen drops of Parke-Davis' chloranodyne by mouth; but this is only to be given on a special order.

Change of Position.

7. No patient should be allowed to turn on the side while a drainage tube is *in situ* unless especially ordered. In cases in which no drainage tube is placed the patient should not be allowed to turn on the side for two days after the stitches have been removed for fear of a reopening of the wound.

Dressings and Drainage Tube.

8. Dressing should be changed whenever soiled, by the nurse in charge. Drainage tube should be drained every fifteen minutes while the drainage is profuse, and after that every hour or every two hours. No drainage tube should be touched without thorough sterilization of the hands. No drainage tube to be removed except by special order. No rubber drainage tube to be placed *in situ* without the application of a safety pin. Straight glass drainage tube to be turned each time it is drained to prevent omentum from catching in the perforations. No pressure of the end of the drainage tube outside of the abdomen to be permitted. Pads should be so arranged that much pressure is prevented. Drainage tube to be turned at least six (6) times both ways at each time of turning. Drainage tube when packed with gauze to have the gauze pushed down with a long and not a short probe.

Removal of Sutures.

9. Stitches to be removed by the surgeon, unless otherwise ordered, on the seventh or eighth day. Section strapping to be prepared and ready. Strapping to be applied between the stitches before they are removed. Great care to be taken in removing stitches, only one side of loop to be cut and stitch withdrawn. In case a glass tube has been followed by a rubber one the stitch above and below the tube should be left *in situ* for

several days longer. In cases of long incision every second suture may be removed on the seventh day and the others on the ninth or tenth day after operation.

Gauze Packing.

10. In cases in which iodoform packing has been inserted the packing should only be disturbed upon special order. It is usually all removed about the fifth day *but when specially ordered may be withdrawn* a few inches at a time beginning a few hours after operation. This is to facilitate drainage.

Vaginal Douche.

11. In cases of total extirpation of the uterus no vaginal douche should be given and no vaginal packing, forceps or clamps removed except on special order.

Emergencies.

12. The house surgeon, when he can be obtained, must be notified, but in cases in which prompt action is required and no one familiar with the standing orders can be communicated with, the nurse must proceed as herein directed.

Preparation before Operation.

13. Each patient to be freely purged and placed on light diet for two days previous to operation, unless otherwise ordered. No calomel to be given before operation.

Trachelorrhaphy.

Trachelorrhaphy stitches to be removed tenth day by surgeon.

Perineorrhaphy.

Perineorrhaphy stitches to be removed fourteenth day by surgeon.

Packing of Trachelorrhaphy.

Packing of trachelorrhaphy cases to be removed sixth day according to order.

Packing of Curettement.

Packing of curettement removed in thirty-six hours by house surgeon, unless a private case, and bichloride douche 1-2000, followed by plain water, given. This is to be continued for four days.

FATAL CASES.

When death occurs it is an unfortunate termination to the case. Sometimes death results under such circumstances from avoidable causes, and we must not lose sight of this fact. Sometimes, however, death is unavoidable from the first. An unskilled hand may kill just as readily as an unclean hand, or an unclean sponge, or an unclean instrument. Be thorough, and see to it that the unclean hand is not your hand; the surgeon is responsible for the rest. He must attend to the preparation of sponges and instruments, and the nurse must see to it that his orders are carried out to the very letter. You cannot be too particular in this respect. When death occurs, keep a very careful guard upon your tongue. You may often think much, but you must certainly say but little, and even though you think what you dare not express you may be wrong. There is always an element of doubt