

GENERAL SURGERY

Routine Ward Procedure

(Essentially TM 8-260 Section III, with modifications, additions, and abstractions)

233. General Routine on admission: a. Ward routine on day of admission.

1. Take and record temperature, pulse and respiration.
2. Notify ward officer or officer of the day of admission and apparent condition.
3. Bath: Tub or shower for ambulant cases. Sponge for seriously ill. Omit bath in any case in which nurse has a doubt as to its advisability. No patient with an acute injury is to have a bath until ordered by ward officer, officer of the day or nurse.
4. Weigh and record weight after bath unless condition of patient contraindicates.
5. Bed for all patients until otherwise ordered by ward officer or Surgical officer of the day.
6. Diet on order only: Emergency cases nothing by mouth until ordered by ward officer or officer of the day. Abdominal cases nothing by mouth until otherwise ordered by ward officer.
7. All other cases nothing by mouth until ordered by ward officer or officer of the day.

b. Antitetanic serum: Tetanus Toxoid.

1. See TM 8-260 par. 233 Sect. b. regarding antitoxin, and Circ. letter, S.G.O. #34, 1941 regarding Toxoid.

Following regulations taken from these sources:

The method of immunization of the patient with an acute injury depends upon whether or not the patient has had tetanus toxoid. The information as to whether immunization with toxoid has been accomplished will appear on Form 81, or in the Service Record, and should be stamped on the Identification Tag. (See below).

Immunization with toxoid is done if the patient has received the initial vaccination of Tetanus Toxoid, with antitoxin if this vaccination has not been done.

Circular Letter # 34 (applicable paragraphs)

The following instruction will govern the administration of tetanus toxoid:

1. Personnel to be vaccinated.....
2. Tetanus Toxoid. A. Type and source..... .. b. Storage and shipment.
3. Initial vaccination with Tetanus Toxoid.....
4. Subsequent Vaccination with Tetanus Toxoid. After the completion of the three injections in the "initial vaccination", a single "stimulating" dose of 1 cc of tetanus toxoid will be injected subcutaneously as follows:
 - a. Under normal conditions.. at the end of the first year only.....
 - b. In time of war....during the month prior to departure for the theater of operations unless such departure takes place with six months after administration of the stimulating dose prescribed in a.

c. In an emergency an additional stimulating dose will be administered immediately. 1. To each person who incurs a wound or a severe burn on the battlefield; 2. To any patient undergoing a secondary operation or manipulation of an old wound when deemed advisable by the responsible medical officer, and 3. To any other person who incurs a punctured or lacerated wound, a powder burn, or any other condition which might be complicated by the introduction of *Clostridium tetani* into the tissues.

5. Passive immunization against tetanus by the use of tetanus antitoxin.

Tetanus antitoxin will be used for the treatment of clinical tetanus and when indicated for the prevention of tetanus in person who have not previously been actively immunized with tetanus toxoid. The administration of tetanus antitoxin will be limited as follows:

a. To patients who present evidence of tetanus.

b. To persons who incur wounds or other conditions which necessitate their protection against tetanus but who have not previously completed the initial vaccination with tetanus toxoid as directed in Par. 3.

c. To wounded persons who may have previously been vaccinated but whose records of vaccination are lost or not available.

The persons referred to in b and c will be immediately immunized passively with adequate amounts of tetanus antitoxin and at the same time will be vaccinated with tetanus toxoid as directed in paragraph 3.

6. Records of tetanus immunization. When a person is immunized against tetanus... A record in duplicate on Medical Department Form 81/.....On completion of the three injection.... a permanent record.... on identification tag....T..... figures indicating year....an additional date....record.....stimulating dose.....

The following from TM 8-260 (Applies to those patients as noted above)

a. Antitetanic serum:

(1) All cases admitted with wounds or burns are given antitetanic serum, observing the following technique:

(2) Approximately 1 minim of the serum to be injected will be injected intradermally with a small skin needle. The raising of a wheal in the skin 1 millimeter in diameter corresponds approximately to 1 minim of the solution. At the end of 15 minutes if there is no reaction and the site of the intradermal injection the patient can be considered not hypersensitive to the serum and the amount desired can be injected intramuscularly or hypodermically at once. If there is a reaction around the site of the intradermal injection, the patient can be considered hypersensitive to the serum and a desensitizing dose of $\frac{1}{2}$ cc. will be injected, followed in 2 hours by the amount to be used.

(3) The above is a simple test and unless the case is a "horse asthmatic", is considered safe for practical purposes, bearing in mind that the dose and desensitizing dose for children is in accordance to age and weight.

(With the method for test as above there is no question, how one might question the statement regarding dosage in children. The child may receive the same amount of tetanus toxin from a source such as a wound as an adult and requires enough antitoxin to neutralize it, regardless of the size of the child. The same applies to prophylaxis with antitoxin, the child requires the same prophylaxis as the adult. It is a mistake to apply the old dosage rule to tetanus antitoxin. Also the method of desensitizing the patient who is found to be sensitive. The dosages must be smaller and repeated more often, e.g. 1 cc. of antitoxin diluted with 10 cc. of physiologic saline solution, and administered in amounts of 1 cc. or less over a period of several hours, or a day until the desired amount of antitoxin has been given. Also it is well to have at hand, especially for the case where sensitivity seems to be present, a hypodermic of 0.5 cc. or 1.0 cc. of 1/1000 solution of epinephrine. MLM.)

b. Laboratory examinations: Laboratory examinations are requested as follows:

(1) Routine:

for fever, vaccine therapy, paracentesis, etc. Very high or very low temperatures will be checked with another thermometer or by another method, e.g. rectal if originally by mouth.

(3) Baths, daily.

(4) Sponges for bed patients.

(5) Shower or tub for other patients as ordered by officer.

(6) Diets: The diet in each case is ordered by the ward officer. The regular diets, liquid, light and full, are prepared with careful attention to the usual needs. When special diets are required the articles desired will be designated.

(7) Medication is given only on the order of a medical officer. This includes cathartics and enemas.

(8) Teeth of all surgical cases are examined often enough by the ward officer to satisfy him that the proper mouth hygiene is being carried out.

(9) Hot water bags and ice caps are not used without suitable covers. Great cares are exercised in the use of hot water bottles, burns may be easily gotten and take a long time to heal. Patients must not be allowed to lie on hot water bottles.

(10) Ice caps are prohibited for post-operative cases except on written order of the operating surgeon.

(11) All dressings are done by the technic as outlined in that section.

(12) Enemas: See paragraph and copy here on page 11:

Unless there is some very good reason for ordering another type of enema, all enemata of the surgical services will be plain tap water. If possible, enemas should be delivered thru a large catheter rather than through the usual enema tip which is ordinarily too large.

234. Preparation of patient for operation. All operations are to be signed up the day previously, so that a proper schedule may be prepared. This does not of course apply to emergency procedures. Preparation of patients for operations should not be done until after the operating schedule has been made out.

a. Preparation of the field of operation will be done in the ward by the ward attendants, except in case of open wounds in which case the surrounding skin and the wound will be prepared in the operating room by the surgeon or his assistant.

b. Ward preparation of the operative field will be done as follows:

(1) The area is shaved widely with liberal suds. Shave too widely rather than not widely enough. Preparation order to include limits of shaving.

Head cases require that the entire head be shaved.

Abdominal cases require shaving from the level of the nipples down to the upper third of the thigh, laterally to the bed line, and below to include the pubic area.

Kidney cases require that the back as well as the abdomen be shaved.

Operations involving the external genitalia only, should be shaved downwards from the level of the umbilicus over the pubic area, the upper third of the thighs, laterally to the bed line, and the entire scrotum and perineum.

Rectal operations require shaving of the buttocks, perineum, sacral area, and half way up the back. If spinal anesthesia is to be used, the whole back is to be shaved.

Operations on the hand require shaving of the entire arm up to but not including the axilla.

For operations on the upper arm shave the whole arm, the axilla, chest and back on that side.

For operations on the thigh and hip, shave the lower abdomen, buttock and thigh down to the knee.

For operations on the knee, shave the entire thigh, knee, leg and foot. For operations below the knee, shave from the middle of the thigh down to and including the foot.

(2) The area, over a wide extent is carefully washed with soap (white bar soap, castile, ivory, or such type soap, NOT with medicated or liquid soap) for at least 10 minutes. It is then thoroughly rinsed.

(3) After shaving and washing the part is covered with a sterile towel, which is bandaged or pinned in place. UNDER NO CIRCUMSTANCES WILL THE TOWEL BE HELD IN PLACE WITH ADHESIVE TAPE.

a. The ward nurse sees that teeth are cleansed, that false teeth, plates or other removable prostheses are removed from the mouth. Patients' glasses are removed as well as are rings and other jewelry.

Proper care is to be taken of these articles. (TM 8-260 p. 86 (6)).

b. The ward nurse checks to be certain that blood and urine examinations have been completed and reports returned, and that shaving satisfactory.

c. The ward officer must fill out the pre-operative examination sheet, before the patient may be taken from the ward to the operating room.

d. Patients having elective procedures may usually have a full but non-residue diet the night before operation, but this should appear on the pre-operative orders the afternoon before. The patient who is to undergo an operation needs food the same as the man who is going out to do a full day's work, possibly even more so, since the working man can keep up his food intake all along while the operative case may have to forego feeding for several days. If as in some gastro-intestinal cases the tract must be empty, the patient should be fortified with glucose, serum, transfusions, etc. In some instances a few days of intensive feeding and vitamin supplementation are indicated. This is to be discussed more fully in chapter on pre-operative care.

e. Pre-operative medication should include a mild sedative the night before operation. The medication preceding the trip to the operating room will be ordered by the ward officer. Suggestions for this medication are included in the subsection on anesthesia. Pre-operative medication in craniocerebral injuries and sedation in these patients in general will follow special rules as outlined in section on craniocerebral injuries. Ward officer will consult before ordering any sedation.

f. Special types of pre-operative preparation are given in sections dealing with various section (e.g. abdominal surgery, orthopedic surgery, genitourinary surgery, etc.)

235. (Immediate post-operative care) (This includes also substance of paragraph 242, and 243.)

a. The patient must not be left alone in bed until he is sufficiently conscious to care for himself.

b. Have basin ready for vomiting, towel, gauze, tongue forceps, tongue blades, mouth gag at bedside table ready for emergency as patient comes out of anesthesia.

c. Patient should be kept warm and not chilled. Avoid draft. However, it must be remembered that the patient is not to be cooked. The hotter he is kept the more he sweats, the more he sweats the more fluid he loses, the more subject he is to chilling and the more restless he is likely to become. Warmth may be achieved without smothering a patient in blankets. The actual weight of many blankets is a real burden. Remember also that

many patients, especially when drowsy from anesthesia become very restless, when they are packed tightly in bed by blankets and sheets which prevent free motion. Restlessness is often increased by measures taken to hold the patient in bed, and a vicious circle is established. A moderate amount of moving about will often quiet a patient.

d. Post-operative fluids are ordered for each case by the ward officer, or by the professional officer of the day.

These may be: Proctoclysis, subcutaneous, or oral.

Unless contraindicated the patient may be given continuous tap water by rectum as soon as returned from the operating room. Warm liquids may usually be given by mouth as soon as nausea has ceased. The amount of fluids given should be sufficient to produce 1200 to 1500 ccm. of urine daily. This requires the administration of 3500 to 5000 ccm.

Careful record will be made of all intake and output (urine, vomitus feces, lavage, etc.; and the results properly charted. In some cases an intake and output chart will be ordered.

For types of fluids to be given in various situations, please see section on post-operative care, shock, and special sections dealing with abdominal surgery, genito-urinary surgery, etc.

Water by mouth, preferably warm, tea, etc., usually be given as soon as nausea is over. However, the ward officer, or the operating surgeon should leave specific orders on every case.

e. Post-operative sedation will be ordered specifically in each case. Morphine in sufficient dosage to allay pain and restlessness for the first 24 to 48 hours makes for a smooth convalescence and unless there is some contradiction the patient should receive this or a similar sedative until the immediate post-operative pain has subsided. Nothing is gained by allowing a patient to suffer. After the first day or two, milder sedatives may be used.

f. Catheterization: A distended bladder is a source of great discomfort and often is unsuspected. While it is advisable to delay catheterization and try other methods of getting the patient to void, a bladder should not be allowed to remain full over 16 hours, nor should it be allowed to become greatly distended. After initial catheterization, the bladder should be emptied every 8 hours until spontaneous urination occurs with complete emptying of the bladder. Catheterization must be done with aseptic precautions by the technic as outlined in the section on genito-urinary surgery. Most infections following the use of a catheter are due to slips in technic.

It is well to remember that a patient may void and still not empty the bladder. The surgeon should suspect this when the patient is voiding small amounts frequently, e.g. 50 to 75 ccm. every hour or so. Unless this is kept in mind and over distended bladder may go unrecognized for several days. This situation will lead to cystitis and often to an ascending infection of the ureters and kidney pelvis.

g. Gas pains usually reflect intestinal injury. The gentler the operation the less likely there are to be gas pains. They will usually respond to mild measures—heat to the abdomen, small doses of morphine, and a rectal tube. The usual rectal tube is an instrument of torture and likely to cause damage to the delicate rectal and anal mucosa. If a rectal tube is needed a small catheter (18 to 20 F) will release gas just as well as a large piece of hose. When gas pains appear it signifies also that intestinal activity has started and that an enema will often bring relief. However, an enema should seldom be given to abdominal cases before the 3rd or 4th post-operative day.

h. Diet. The patient may be given warm liquids (cold only if warm are absolutely refused) in small amounts as soon as nausea has passed. These liquids are to be taken into account when tabulating intake. Except for operations on

the gastro-intestinal tract (see section on abdominal surgery) the diet on the first post-operative day should be soft unless nausea is still present. If nausea persists parenteral fluids and glucose should be kept up. The abdomen should be checked for ileus. Beginning with the 2nd post-operative day the diet may be gradually increased to include solid articles of food but should always be light until the first bowel movement has occurred.

i. Removal of sutures. No rules can be given for the removal of skin sutures. If sutures are put in at correct tension they should cause no trouble if left in for 10 to 14 days or even longer. They may be removed as soon as the skin has healed, usually between the 7th and 14th day, but should always be put in so that longer stay will do no harm. After removal, the skin should be supported with adhesive bridges. These bridges may be left in place for two or three weeks and help prevent the widening of the cutaneous scar.

j. The patient may be allowed out of bed as soon as the wound has healed and he has remained fever free for 48 hours and or as soon as the wound has healed enough to allow motion. The general condition of the patient must be taken into consideration also. No rigid rules are possible. Getting up should be a gradual process especially after the patient has been in bed for more than 48 hours. He may be allowed to sit up in bed the first day, to sit out of the bed on the second and to begin walking on the third day, ~~but~~ However, each case differs from the next and should be observed.

The following are suggestions:

Appendectomy-with McBurney incision may usually be up in a chair on the 5th post-operative day, and walk about on the 6th. After a midline incision back rest may be allowed on the 10th day, bedside chair on the 11th and walking on the 12th or 13th post-operative day.

Herniotomy should be kept in bed until the 13th or 14th day.

236. Special post-operative diets. See sections on abdominal surgery.

238. Technic for intravenous infusion. See chapter on post-operative care.

239. Severe head injuries, concussion, severe contusion, skull fracture, etc., see chapter on craniocerebral injuries.

241. Anesthesia and operating room. See chapter on operating room. See chapter on anesthesia.

Preparation of the operative field in clean case in the operating room.

The operative field in clean cases is prepared in the following manner, (thorough washing with non-irritant soap and water)

Needed:

1. Small table covered with
2. sterile towel or sheet.
3. Two sterile basins of about 1500 cc capacity.
4. Sterile cotton squares about 5 x 5 inches, 1 dozen.
5. Sterile rubber gloves.
6. Sterile towel.
7. Cake of plain white soap.
8. Kelly pad or rubber sheet covered with sterile towel to put under the part to be scrubbed.

Technic: The scrubbing is done either in the operating room, or in an adjoining room, under aseptic precautions with every one in the room, including the patient masked.

The two basins are placed on the table on top of the sterile sheet, and are about 3/4 filled with warm sterile water. Into one basin is dropped the cake of soap. The surgeon or his assistant will scrub his hands as for operation. He dons rubber gloves and proceeds to make a good lather with two cotton squares in the basin containing the soap. The field of operation is then washed thoroughly using the cotton squares and plenty of suds, covering a wide area about the operative field.

This is really a scrubbing procedure, the same as that for washing the hands, and is done as carefully and thoughtfully. It must not be done with great pressure or the skin will be irritated. Particular attention should be paid to folds and creases, the umbilicus for example. Work in general from the central parts of the field outwards, but of more importance is thorough conscientious washing. Ten (10) to fifteen (15) minutes, and frequent changes of cotton squares.

After the washing the area is rinsed with sterile water. Cotton squares are placed about the site so as to keep the wash water from running from unscrubbed areas onto the operative field. As soon as the area is rinsed it is ready for craping and the operation. No skin antiseptic is needed and is not advised.

In case of open wounds, the procedure is the same, except that the area about the covered open wound is washed with one set-up and then a second set-up is used to wash out the wound. For details see subsection on principles of treatment of open wounds.