ON BANDAGING,
AND OTHER OPERATIONS OF
MINOR SURGERY.

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NEW EDITION,
WITH AN ADDITIONAL CHAPTER ON MILITARY SURGERY,
BY W. F. ATLEE, M.D.

AND
ONE HUNDRED AND EIGHTY-SEVEN ILLUSTRATIONS.

PHILADELPHIA:
BLANCHARD AND LEA.
1862.
Entered, according to Act of Congress, in the year 1855, by

BLANCHARD & LEA,

in the Clerk's Office of the District Court of the United States in and for the Eastern District of Pennsylvania.

COLLINS, PRINTER.
TO

GEORGE W. NORRIS, M. D.,

SURGEON TO THE PENNSYLVANIA HOSPITAL,

AS A TRIBUTE OF RESPECT

FOR HIS PROFESSIONAL AND PERSONAL CHARACTER,

AND IN ACKNOWLEDGEMENT

OF HIS INSTRUCTIONS AND REPEATED KINDNESS,

This Volume

IS INSCRIBED

BY THE AUTHOR.

1*
PREFACE TO THE NEW EDITION.

The very kind manner in which the first edition of this little book was received, has stimulated the Author to renewed diligence in adding to it whatever seemed to him calculated to augment its usefulness and its comprehensiveness. He hopes that his efforts will be found successful.

By an increase in the size of the page, it will be seen that the considerable additions to this edition have been introduced without causing any enlargement of the volume.

Philadelphia, 1855.

The merits of the work as a handy and convenient manual for reference in the field and hospital, have induced the publishers to add to it a chapter (the Ninth) on Gunshot Wounds, and such other subjects peculiar to Military Surgery as seemed requisite to adapt it more thoroughly to the wants of Army Surgeons. Owing to the absence of the Author in Europe, this has been prepared by Dr. W. F. Atlee.

Philadelphia, March, 1862.
PREFACE.

The object which the Author has had in view in the preparation of the following pages, has been, to present to the younger surgeon, and to the student, information relative to the art of bandaging, and to some other points of importance in the practice of surgery. These are subjects which are but slightly alluded to in systematic courses of lectures, or in most of the published treatises on the science; yet the necessity of a familiar acquaintance with them will be readily acknowledged by every surgeon of experience.

In the collection of the materials for this volume, the Author has availed himself very freely of the knowledge of others, as exhibited in books, and of his own opportunities in hospitals and in private, of gaining practical acquaintance with the subjects of which he has treated. He trusts that he has not failed in his intention, always to give due credit to all from whom he has taken information. Originality can scarcely be expected, in a work of this kind, excepting, perhaps, in its composition.

The book is divided into five parts. Of these, the first embraces a description of the implements, if such a term be admissible, with which the ordinary duties of the surgeon are accomplished.

The second treats of the composition and preparation of Bandages, of their application to the different regions of the
body, and of the purposes which they are thus made to subserve.

The third is devoted to the consideration of the apparatus of various kinds, used in the treatment of Fractures. In the arrangement of this portion of the volume, the Author has thought it expedient to give pretty full details, showing the indications of treatment in each particular case of Fracture, and thereby rendering more manifest the adaptation of each bandage, splint, or other dressing, to the fulfilment of these requirements.

The fourth division describes the mechanical means employed in the treatment of dislocations, with the mode of applying them.

In the fifth part are detailed at length the methods of performing such operations as seem strictly to be included in the term "Minor Surgery;" these are the operations for bleeding, general and local; the modes of effecting counter-irritation;—the methods of arresting haemorrhage; the closure of wounds; the introduction of the catheter, and the administration of injections. A few remarks on the mode of relieving pain during operations, and a short appendix of useful formulæ, close the volume.

Philadelphia, May, 1848.
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MINOR SURGERY.

PART I.

The means employed by the surgeon in the treatment of the diseases to which he is ordinarily called, should first engage our attention: they are, in a measure, of a mechanical and chemical kind. This part of the volume will therefore be devoted to the consideration:

First. Of the instruments which it is most necessary to provide for daily use.

Second. Of the materials employed for surgical dressings, and the mode of applying them,—including the use of water as a local application, and for bathing.

Third. Of the means of purifying the atmosphere of the patient's apartment.

CHAPTER I.

ON THE INSTRUMENTS USED IN DRESSING.

The instruments which the daily avocations of the surgeon call for are of various kinds. For convenience-sake they are arranged in a "pocket-case." They may be multiplied according to the fancy of the surgeon; but those which will be found most useful are, the dressing and dissecting forceps, a pair of scissors, bistouries, scalpels, a thumb-lancet, an abscess lancet, a director, probes, a tenaculum, curved needles, a porte-caustic, a double catheter, and ligatures.
The uses of the dressing forceps are manifest, in the removal of soiled dressings, covered, as they very often are, with acrid and irritating secretions; in the loosening and withdrawal of decayed bone, and other foreign matters, from sinuses, deep wounds, and such points as are of difficult access to the fingers alone. For such purposes the common dissecting-forceps will frequently answer. But the proper Dressing-forceps is of a more suitable shape, as illustrated by the accompanying drawing (fig. 1). A still better form is that of the French Polyergus-forceps, the blades being bent in front of the pivot, so that the instrument occupies less space in the wound or sinus, when opened than when closed.

The scissors used by the surgeon may be straight or curved.

There should be two bistouries in the pocket-case: a sharp-pointed and a probe-pointed. The circumstances in which each will be most advantageously employed, will readily suggest themselves to the operator.

There is great variety of opinion as to the best form and size for the Scalpel. Mr. Fergusson prefers one of the shape and dimensions indicated in the annexed drawing (fig. 2), the blade and handle together being about six inches long. With such a scalpel in his pocket-case, one may perform almost any
of the capital operations of surgery, so far as mere cutting is concerned.

The director and the probes should be of silver, as being flexible, and less liable to be injured by contact with the various fluids with which they will meet, than if made of steel. The probes should be of various sizes, and one should be made with an eye in its flattened extremity, for the purpose of being armed, if occasion require, with a ligature, a skein of silk, or a piece of tape.

The porte-caustic should be of platinum, as this metal best resists the action of nitrate of silver, which is the caustic generally carried in the pocket-case. The platinum cup may be fitted to a stem of wood, or it may be so made as to be received into a silver case; the latter is the best arrangement. In addition to the lunar caustic, the surgeon will find it convenient, oftentimes, to have a crystal of the sulphate of copper in his case.

The double catheter is made of silver, as is the common male, or female, catheter. It consists of three pieces, as represented in the annexed drawing, (see fig. 3.) A, a straight tube, about five inches long, having at its upper extremity two rings firmly soldered to the tube at points opposite to each other; while the lower extremity has a female screw-thread cut upon it, of half an inch in length: B, a beak, an inch and a half or two inches long, slightly curved, its lower extremity closed and rounded, while the upper end is provided with a male screw,
corresponding with the female screw of the staff which is intended to receive it. Just above the lower extremity of this beak, two oval or rounded fenestrae are cut, one on each side, thus throwing open the cavity: C, another beak, about seven inches long, having a curve similar to that of the ordinary male catheter, and its upper and lower extremities adjusted as are those of the shorter beak. By simply screwing the short curved piece to the staff, we have an elegant female catheter; by similarly attaching the long curve, a male catheter. When in the pocket-case, the short beak should be kept screwed to the staff.

This instrument is very well made by Mr. Warner of this city, Commerce Street. The tube should be thicker and stronger than that of the ordinary catheter, and care should be used that the joints be accurately fitted.

The advantages of having so important an instrument as this reduced to a form so portable, need not be insisted upon.

In addition to the instruments above enumerated, the pocket-case may be made to include a spatula, a double canula with its wire, a seton-needle, and a razor. These, however, are not so essential elements of the case, as those before mentioned; generally they can be dispensed with, or other instruments may well be used in their stead; and their presence will render the pocket-case much more bulky and cumbersome.

The blades of the bistouries and scalpels may be so made as, when not in use, to be concealed within the handle, as the blades of the ordinary pocket-knife; by this arrangement, the edge of the instrument will be protected from injury.
CHAPTER II.

ON SURGICAL DRESSINGS.

The various appliances used in surgical dressings may be thus enumerated: lint, cotton, tow, compresses of various kinds and forms, sponge-tent, setons, adhesive and other plasters, poultices, lotions, cerates, ointments, liniments, bandages, sponge, and apparatus of various kinds, more or less complex, for special purposes. Some description of each of these will be necessary.

1. Lint is the soft fleecy substance obtained by unravelling old linen. It may be procured in the shops in the form of what is called "patent lint," or it may be prepared as required for use, by scraping, with a sharp knife, the surface of old linen, previously put upon the stretch. The linen selected for its preparation should be soft, from use and washing. As thus obtained, the lint is very light and delicate, and admirably adapted to absorb the secretions of parts to which it may be applied. The "patent lint" is sold in sheets or rolls, one of its surfaces is fleecy, the other is smooth: its texture is compact, certainly not nearly so porous as the loose lint; hence it absorbs much less readily and freely than the latter. Both varieties of lint are applied dry, or covered with cerates, or saturated with some kind of lotion.

The French surgeons employ an admirable sort of lint, which they term "charpie." It is now very generally used in this city, and, indeed, throughout the country, when it can be procured. It is thus made:—linen, of a coarse or fine texture, according to circumstances, is cut into small pieces, a few inches square, and its tissue completely unravelled, thread by thread. The coarser kind of charpie may be made of old table-cloths; the finer sort of a lighter material. Velpeau gives a decided preference to charpie made of old linen, as being much more absorbent, and much less irritating, than that made of the new fabric.

(Charpie of an excellent quality is made in this city by Mrs. 3*)
Surgical dressings.

Jones, southwest corner of Walnut and Juniper streets, and is kept for sale in many of the apothecary shops.)

Lint, in its various forms, is used as a simple application to ulcerated or excoriated surfaces; to favour an equable and even pressure upon any part; to prevent adhesion between the walls of cavities, natural or accidental; to absorb various secretions, and as a vehicle by which medicinal applications may be made, when and wherever required.

Various arbitrary terms have been applied to no less arbitrary forms, which lint, and especially charpie, may be made to assume, as an element of surgical dressings. Thus, there is the plumasseau or pledget, the roll, the bullet, the mesh, the tent, the tampon, the pellet, &c.

The plumasseau is prepared by simply folding, at the middle, a sufficient number of the filaments of charpie, previously laid parallel to each other. For the sake of neatness, the ends of the threads may be cut off evenly, or inverted, and the mass thus formed moulded by the hands to any shape, flat, round, circular, square, or oblong, to adapt it to particular parts.

The roll is a mass of charpie, rendered cylindrical by the hands, and firmly tied at the middle. It is chiefly used to arrest hemorrhage, by pressure, from a deep-seated vessel, or to absorb the secretions from wounds or cavities. For convenience in withdrawing the mass, the string, tied about the middle, may be left attached at this point, and projecting from the orifice.

The term bullet is applied to a small mass of charpie or common lint, rolled into the form of a small ball. A number of these may be advantageously used for the same purposes as the roll just described.

The mesh resembles the roll very much in its uses; its fibres are left loosely floating, instead of being rolled together. It is sometimes employed in the treatment of sinuses and fistulous canals, by being thrust to the bottom of such cavities, on the end of a probe, with the view of preventing their healing at the orifice. It may be introduced dry, or covered with some lotion or cerate, more or less stimulating.

The tent of charpie is made by twisting a certain amount of this substance into the form of a cone. For the purposes
for which a tent is generally required, it is very much inferior to the sponge-tent.

The tampon is merely a large ball of charpie, or it may be a number of bullets. It is used in the plugging of bleeding wounds, &c.

The pellet consists of a ball of charpie or common lint, enclosed in a piece of soft linen, firmly tied. It may be used as a tampon.

The good sense of the surgeon or dresser will enable him to employ these different forms of lint seasonably, or to invent others still better.

2. Cotton may be used with advantage in many cases. Its cheapness—and the almost universality of its diffusion—are of themselves great recommendations, in connexion with its softness, lightness, and the porosity of its texture. It is sold either as "carded cotton," or, in the form of "sheet cotton," in large sheets, of which both surfaces are smooth, more or less glazed, forming, as it were, thin pellicles, between which the true cottony mass is inclosed. As an application to secreting surfaces, it will be found to be less absorbent than lint, and probably more irritating. It is very much employed as a covering to extensive superficial burns, to protect their sensitive surface from the action of the air and other irritants. But when there is much suppuration or other discharge, the cotton, becoming more or less imbued with the secretion, is heavy and heating, and is readily displaced by slight movements of the patient, becoming rolled into hard masses. Probably every dresser has been often much annoyed, by the difficulty which he has experienced in removing from a large moist sore, these numerous indurated pellets of cotton, which sometimes adhere very tenaciously to the granulations. Its chief uses—and for these it is almost invaluable—are, to form a soft bed in which an injured part may be reposed, to prevent unpleasant pressure and excoriating from bandages and other apparatus, and to envelope parts, of which the natural temperature has become depressed.

3. Tow is never applied directly to a secreting or abraded surface; being too harsh and irritating. It is made use of in enveloping other dressings in cases of profuse discharges, as in compound fractures, suppurating stumps, &c.

4. The compress is employed for a variety of purposes.