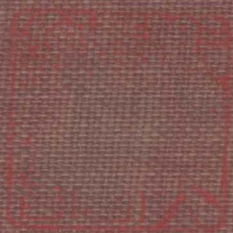


Davis & Geck

MANUAL

SUTURES AND
LIGATURES



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MANUAL
OF
SURGICAL SUTURES
AND LIGATURES



Davis & Geck, Inc.

BROOKLYN, N. Y., U. S. A.

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MANUAL
OF
SURGICAL SUTURES
AND LIGATURES

PREFACE

TEXTBOOKS of surgical nursing do not include specific instructions for preparing surgical sutures for the operating room or for the proper handling of sutures at the operating table. Hence, surgical nurses have had to acquire much of their suture information from actual experience in the hospital operating room.

The object of this Manual is to furnish the nursing profession with a practical guide for the correct use of surgical sutures and ligatures.

It is not always recognized that *absorbable* sutures are processed by two methods—boilable and non-boilable, depending upon the tubing fluid used—and that they must be handled differently in the operating room. Each year an increasing number of requests for suture information is received—especially how to prepare sutures for the operating room; methods of handling sutures at the operating table; suture technic; and the kinds and sizes of sutures best adapted to various tissues of the body.

Therefore, in submitting this work, our aim has been to provide accurate information of this nature in a form convenient for reference by operating room supervisors, graduate nurses, and student nurses.

DAVIS & GECK, INC.

MANUAL
OF
SURGICAL SUTURES
AND LIGATURES

TABLE OF CONTENTS

SECTION 1

How to Prepare Sutures for the Operating Room

SUTURES	1
Absorbable	1
Non-Absorbable	2
LIGATURES	2
ARRANGEMENT OF TUBES AND BOXES	2
For General Surgery	2
For Surgical Specialties	3
HOW TO STORE SUTURES	3
ASEPTICIZING EXTERIOR OF TUBES	4
Boilable Sutures	4
Non-Boilable Sutures	6
STORING ASEPTICIZED SUTURE TUBES	10
SILK SUTURES	12
STAY OR TENSION SUTURES	14
SPECIAL SUTURES	15
STERILIZATION OF NON-TUBED SUTURES	15
RESTERILIZATION OF SUTURES	17

SECTION 2

Preparation of Sutures at the Operating Table

SURGEON'S CHOICE OF SUTURE MATERIALS	21
STERILITY OF THE SUTURE AS IT COMES FROM THE TUBE	22
TECHNIC OF HANDLING BOILABLE SUTURES	22
Opening the Tubes	22
Unwinding the Sutures	24
The Pliability or Suppleness of the Suture . . .	24
Providing Maximal Pliability to Boilable Sutures .	24
Satisfactory Methods for Restoring Pliability . .	25
1. Immersion in 70% Alcohol	25
2. Exposure to Towel Saturated with 70% Alcohol .	26
3. Immersion in Saline Solution	28
4. Exposure to Towel Saturated with Saline Solu- tion	29
How to Unwind Boilable Sutures after Maximal Pliability is Obtained	29
TECHNIC OF HANDLING NON-BOILABLE SUTURES . . .	31
Opening the Tubes	31
How to Unwind Non-Boilable Sutures	31
Pliability of Non-Boilable Sutures	33
1. Exposure to Towel Saturated with 95% Alcohol	33
2. Immersion in Saline Solution	34

CONTENTS

ix

THE LIGATURE	34
TYPES OF SUTURES	36
LENGTH OF THE SUTURE	36
SELECTION OF NEEDLES	37
Types of Needles	37
Reese Snap-on Needle	38
Atraumatic Needle	39
Size of Needle as Related to Size of Suture	41
Number of Needles Required	42

SECTION 3

What the Surgeon Expects of Sutures

PHYSICAL PROPERTIES OF SUTURES	45
Size and Tensile Strength	45
1. Catgut Sutures, U.S.P.	45
2. Surgical Silk	47
Duration in the Tissues	47
USE OF THE LIGATURE	48
To Arrest Hemorrhage and Form Thrombus	48
To Control Hemorrhage in Special Organs	49
To Prevent Secondary Hemorrhage by Transfixion	49
USE OF THE SUTURE	49
To Hold Tissues Together Until They Heal	49

Methods of Suturing	50
1. For All Tissues	50
2. For Special Tissues	51
3. Primary Suture Line.	53
4. Secondary Suture Line	54
STAY OR TENSION SUTURES	54
SUTURES IN RELATION TO WOUND HEALING	57
POSTOPERATIVE WOUND INFECTIONS	59
SUTURES USUALLY ARE ABSORBED OR BECOME INNOCUOUS	63
USE OF SUTURES TO HOLD A DRAIN IN PLACE	64

SECTION 4

Suture Technic

IMPORTANCE OF A STANDARDIZED TECHNIC	69
THE HOSPITAL BACTERIOLOGIST	70
THE STERILITY OF SURGICAL SUTURES	72
ADVANTAGES OF FINE SIZE SUTURES	72
HOW TO CARE FOR THE SHORT END OF THE SUTURE	74
CARE OF THE LONG END OF THE SUTURE	76
PROTECTION OF SUTURES FROM EXPOSED SKIN	76
PROTECTION FROM CONTAMINATED LAPAROTOMY SPONGES	76

CONTENTS

xi

PROTECTING SUTURES FROM CONTAMINATING DISCHARGES	78
CUTTING AFTER KNOTTING	79
SILK SUTURES	79
SPEED OF OPERATION WITH CONTINUOUS AND INTERRUPTED SUTURES	80
HOW TO DEVELOP SPEED WITH INTERRUPTED SUTURES .	80

SECTION 5

Complications and Contra-Indications

SIGNS OF TOO MUCH TENSION	85
SIGNS OF DISRUPTION	86
What Happened to the Sutures?	86
CONTRA-INDICATIONS TO THE USE OF CATGUT	87
CONTRA-INDICATIONS TO THE USE OF SILK	87

SECTION 6

Sutures for Various Tissues

CATGUT SUTURES IN THE SKIN	91
GENERAL GUIDE FOR D&G SUTURES	92

SECTION 7

Varieties of Suture Materials

SURGICAL CATGUT	101
Source	102
Types	102
Tanning Process	102
RIBBON GUT	104
KANGAROO TENDONS	105
KANGAROO BANDS	106
SURGICAL SILK	107
SPECIALLY TREATED SILK	109
SILKWORM GUT	109
NYLON	110
LINEN	111
HORSEHAIR	111
WIRE	111

SECTION 1

How to Prepare Sutures for the Operating Room

Sutures	1
Ligatures	2
Arrangement of Tubes and Boxes	2
How to Store Sutures	3
Asepticizing Exterior of Tubes	4
Storing Asepticized Suture Tubes	10
Silk Sutures	12
Stay or Tension Sutures	14
Special Sutures	15
Sterilization of Non-tubed Sutures	15
Resterilization of Sutures	17

SUTURES

A *suture* is the thread-like material used in sewing or stitching together severed tissues or in approximating structures which it is desirable to hold in apposition until healing renders artificial support no longer necessary. Sutures comprise two groups:

Absorbable sutures. During the process of wound healing, certain sutures are digested and absorbed by the tissues

in which they are embedded. The most commonly used absorbable suture materials are catgut, ribbon gut, kangaroo tendons, and kangaroo bands.

Non-absorbable sutures are those which remain for an indefinite length of time in the tissues, and thus are not absorbed during the process of wound healing. They include surgical silk, specially treated silk for skin closure, silkworm gut, nylon, linen, horsehair, and wire.

LIGATURES

A *ligature* refers to a strand (usually of the same material as that used for sutures) with which blood vessels are constricted to prevent or arrest hemorrhage.

ARRANGEMENT OF TUBES AND BOXES

For General Surgery — In the interest of speed and efficiency, a systematic method of storing tubes and boxes of sutures is suggested:

Tubes are most easily stored in their original packages grouped according to variety—catgut, Kal-dermic,¹ ribbon gut, kangaroo tendons, silk, etc. The D&G package is specially designed to make tubes readily accessible—simply break the seal on the box and turn down the front and back hinged covers, thereby exposing the ends of the tubes. Unused tubes may be easily replaced in their respective packages for later use.

The boxes are arranged on shelves according to sizes beginning with the smallest at one extreme and ranging to

the largest at the other. The sizes are plainly printed on the boxes but, in addition, the shelf immediately below may be marked for easy identification. With this arrangement, a selection can be made quickly when a particular size and variety is required. Also this facilitates inventory, which should be taken frequently to insure that an adequate supply of required sizes and varieties is on hand at all times.

For Surgical Specialties—Those sutures used for eye, urological, intestinal, and thyroid surgery, etc., are best kept in the instrument cabinet housing the special instruments employed for these particular operations. This facilitates preparation for operations in these specialties. Moreover, the special sutures are not confused with others and do not interfere with efficient arrangement of boxes and tubes of standard materials used in general surgery.

HOW TO STORE SUTURES

No special temperature conditions are required for storing *boilable* sutures. But the *non-boilable* variety should not be stored in abnormally warm places such as over radiators, adjacent to steam pipes, or in confined quarters next to boiler rooms, etc.

D&G sutures can be kept indefinitely. Their resistance to deterioration through age, light, or climatic conditions permits the maintenance of liberal stocks without risk of loss or depreciation in quality. However, when fresh supplies are received, the new boxes should *always* be placed in back of those already on the shelves. Improvements in

sutures resulting from continuous research are made from time to time, and the plan recommended above insures the use of a stock of current manufacture.

Suture material from tubes which have become cracked should, of course, be discarded at once since it can no longer be considered sterile. Even though sutures which are marketed in paper containers instead of hermetically sealed tubes may be marked "sterile," their sterility should be questioned.

ASEPTICIZING EXTERIOR OF TUBES

Boilable Sutures—The term *boilable* applied to sutures indicates that this variety may be boiled or autoclaved for the purpose of asepticizing the outer surfaces of the tubes in which they are contained. This does not mean, however, that the suture itself can be boiled once it is removed from its tube, nor does the term mean that tubes of such sutures must be boiled or autoclaved for sterilization of the strands within. D&G boilable sutures have already been sterilized by the Claustro-thermal¹ method of heat sterilization during the process of manufacture, and have been proved free of all bacteria and their spores by elaborate bacteriologic tests before release for distribution.

The sole reason for boiling or autoclaving the tubes is to sterilize their outer surfaces so that they may be handled by the operating personnel without disturbing the asepsis of sterile gloves, anything else which they may contact, or the suture itself during removal from the tube. The wide

use of boilable sutures is due to general recognition of the high safety factor of heat sterilization and the quickness and convenience of this method of asepticizing the outside of suture tubes.

D&G boilable sutures are of such stability that the tubes may be repeatedly boiled or autoclaved without injury to the strand. This applies to the absorbable materials such as Claustro-thermal² catgut, ribbon gut, kangaroo tendons, etc., as well as to the non-absorbable materials including *Kal-dermic*, Anacap¹ silk, celluloid linen, silkworm gut, horsehair, etc.

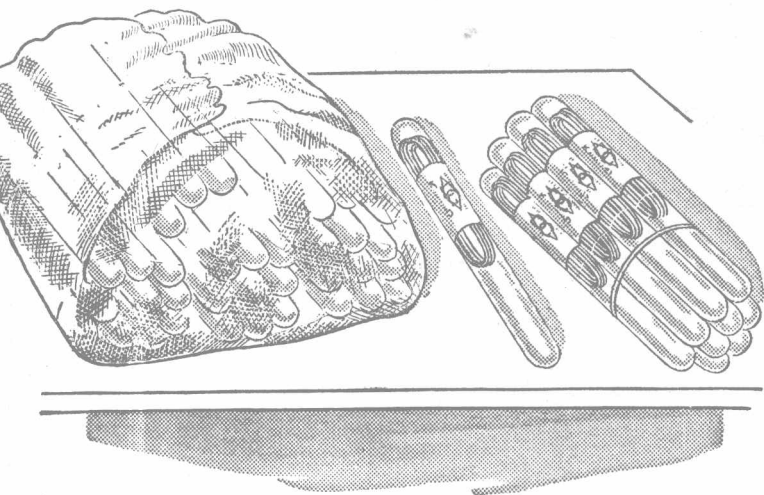


Figure 1. *Asepticizing Exterior of Tubes*

Tubes of *boilable* sutures are assembled into small bundles secured by rubber bands, and the bundles are securely wrapped in gauze to protect the tubes against breakage.