Atlas of Aesthetic Plastic Surgery

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To Christina and Richard

Preface

All of plastic surgery is both science and art. For aesthetic plastic surgery, perhaps the predominant factor is the art. It seems wise for the plastic surgeon, who is always attempting to create beauty, to be familiar with that which is beautiful. The plastic surgeon, perhaps more than any other physician, should have at least a working knowledge of both classical and modern art and sculpture. It goes without saying that he should be familiar with beauty in the flesh.

Any surgeon whose major interest is aesthetic plastic surgery rather than reconstructive and reparative surgery is aware that the structures of various parts of the body vary considerably among individuals. This is true for the thighs, the hips, the abdomen, and even more for the breasts; but the greatest variety of structures, with their differing sizes, contours, angles, curves, and planes, is seen in the face itself.

The surgeon who specializes in aesthetic plastic surgery is also aware that there is no one way to perform a particular operation in every case. He must be adaptable and inventive in applying his basic knowledge of the science and art of plastic surgery to the specific case and the specific set of problems it presents. For this reason *Atlas of Aesthetic Plastic Surgery* can serve only as a general guide and cannot be considered the last word in technique. Only the principles remain the same, and occasionally even they may vary. Good, basic surgical technique is essential to any operative procedure, and a sound anatomical and physiological approach to the patient is a sine qua non.

Aesthetic plastic surgery, though admittedly done on occasion to rehabilitate a particular part of the body, is mainly performed to rehabilitate the entire person. An individual's psyche suffers wear and tear paralleling that of the tissues which show advancing age or the ravages of disease or injury. In some instances, tissue changes result in part or in toto from emotional disturbances, which thus may be the cause rather than the effect. It stands to reason that with an improvement in his appearance, a person's self-image is improved, and this in turn provides a feeling of emotional and physical well-being.

These fundamental tenets are not merely clichés to be used to justify the performance of aesthetic plastic surgical procedures. They are basic and real, as anyone who sees these patients day after day cannot help but observe. It is no more important to treat the emotional needs of a patient than his physical needs, but neither is it less so.

Pride of workmanship has distinguished Swiss watchmakers, German auto manufacturers, Japanese electronics workers, and Italian tailors, to mention a few. But pride of workmanship is virtually absent in much of our society today. There is no single craftsman in any field of endeavor to whom workmanship should be more important than it is to the plastic surgeon, and this is particularly true for those with a special interest in aesthetic plastic surgery. And in this field, as in other fields of surgery, the need for sharing ideas, experiences, techniques, and methods of management of patients cannot be overemphasized.

A volume on aesthetic plastic surgery describing specific techniques and methods of management for this limited area of the field has not been previously available. Though there are many fine texts on general plastic surgery, a number of which include some of the aesthetic surgical procedures, and excellent monographs on certain aspects of the field, there has been no text dealing exclusively with the techniques of aesthetic plastic surgery. The resident in plastic surgery, the young surgeon without wide experience, and even the experienced surgeon should benefit from a compilation of such techniques and methods.

For the most part the techniques included in this volume are accepted methods, used by the author himself. When a number of techniques are described, it indicates that either (1) no one technique has solved all the problems encountered; (2) opinions among plastic surgeons differ as to which one is best; (3) any number of techniques give a reasonable and acceptable result; or (4) the technique is to be varied in the light of the specific problem. The author points out his choice of procedures when there is one, states reasons for varying techniques, and includes a number of personal techniques, some of which have been previously reported only in lectures and operating-room demonstrations. Thus the approach in this volume is mainly personal rather than encyclopedic.

The list of references and suggested reading includes the work of surgeons to whom credit is due from this author, as well as others whose alternate methods and additional ideas are not included. With the recent strong upswing of interest in aesthetic plastic surgery in the medical profession, the lay public, and the press, there has been a flood of papers on various aspects of the specialty. "New" techniques and "modifications" of old techniques have been reported at a rapid rate. It is impossible to include all good techniques or to list all interesting reports. Further, the author has used some techniques for so long a period that they have become second nature to him, with their origin forgotten. So they are in part borrowed and perhaps partly his own.

The author would like to apologize in advance for being so close to the problem that he has not seen all its facets or listed all the solutions which the reader may wish or need to find. The realization that it is impossible to include every surgical procedure

available for every imagined problem makes the task no easier. However, an earnest effort has been made to include the more commonly encountered problems and to present the most likely solutions.

The author expresses his appreciation to Miss Ruth McBride, Mrs. Carole O'Neal, and Mrs. Ann Dale who tirelessly typed and retyped the manuscript, and also to Mrs. Miriam Schiff Alterman without whose drawings there would be no book. To Mr. Fred Belliveau, Manager of the Medical Division of Little, Brown and Company, to Miss Judith Haigh, his very capable assistant, and to Mrs. Rhoda McIntyre, copyediting supervisor, thanks are due for their endless patience and encouragement. The author regrets the many hours he has stolen from his family to work on this book.

Atlanta J. R. L., Jr.

Atlas of Aesthetic Plastic Surgery

"Beauty is truth, truth beauty,"—
that is all
Ye know on earth, and all ye need
to know.

—Keats

Contents

1

Procedures in Scar Revision and Wound Repair

The basic principles of plastic surgery are primarily concerned with scar revision, resection and repair of lesions, and wound repair. Once these basic principles are learned and understood, they may be applied to the varied problems encountered in aesthetic plastic surgery and to the various areas of the body. In aesthetic plastic surgery, as in all fields of endeavor, the basic principles are of foremost importance because they are the foundation on which all the specific techniques are built.

A few of the principles in wound repair and scar revision and repair are mentioned briefly to serve as an introduction for the young plastic surgeon. These principles may be applied in various areas of the face, trunk, and extremities to accomplish the desired aesthetic result. Often, they may not be mentioned specifically in discussions of particular areas, since it will be assumed that the surgeon will be guided by these basic principles when working in every area of the body and whatever the plastic surgical problem to be solved may be.

Facial scars are one of the most common problems dealt with in surgery to improve the appearance of the face. It does not matter that protruding ears have been corrected, a too large nose made petite, or teeth beautifully straightened or reconstructed—facial scars tend to draw attention away from the improved features toward their own abnormalities. Scars anywhere about the face have this one strong quality: They attract attention to themselves and make the bearer of the scars self-conscious.

The man, woman, or child with facial scars is usually very resentful of them and shows this resentment in many surprising personality traits. There may be a prevailing simple chip-on-shoulder attitude or an insecure personality, manifested in a variety of ways by different people. More usually, however, there is a stiff-upper-lip attitude which drives the patient on to greater achievements in an attempt to "show the world" in spite of the deformity.

Needless to say, a scar in the area of the mouth may cause asymmetry of the mouth, interfere with the function of one side of the upper or lower lip, give a fullness to the lip where the scar has traversed the muscular layer, or create an uneven vermilion border to detract from the natural beauty of the mouth and face. No amount of skilled dental reconstruction will correct the mouth completely unless the obvious scar and its effects are corrected. Even acne scars of the face, which have no direct relation to the mouth itself, detract from a beautiful mouth and its smile or pout.

The reverse, of course, is also true. No matter how attractive the nose, eyes, and skin may be, beautiful teeth add to that feeling of beauty in the patient and to the expression of confidence in the patient's eyes because she knows she has a beautiful smile. Irregular, unsightly teeth, malocclusion with obvious secondary jaw problems, and stained or carious teeth detract from facial beauty. All of us have friends or family who smile with great attention to keeping the lips closed. This reflects the inner uncertainty and inadequacy of the patient who is well aware of the unattractiveness of the teeth.

The treatment of facial scars is a subject in itself. The resection of wide, irregular, depressed, or uneven scars with careful repair in layers and with minute attention to the final skin closure may be followed by subsequent surgical abrasion to blend out the scars for further improvement. The incision through the skin ordinarily goes obliquely away from the skin surface (undercutting) in order to provide the widest area for closure deeply rather than superficially. This causes an eversion and raising of the skin surface, with closure of the deeper layers, and gives better support to the skin surface than do vertical resections. With relaxation and stretching of the skin, the scar line gradually becomes flat and remains a fine line, rather than spreading into a wider scar.

This undercutting type of resection for facial scars is not always wise, particularly in the bearded skin of the male or in the scalp or eyebrow. Undercutting in these areas may sever or excise hair roots for an area adjacent to the scar line, leaving a bald area about the scar, which makes it more rather than less apparent. In such cases it is best to do a straight vertical excision, or, in the scalp, even to wedge the resection toward the resected area and away from the skin edges on either side in order to preserve the hair roots right up to the scar line (Fig. 5-39).

Preserving the hair roots is an important principle in incisions and excisions of the scalp, such as the excision of scars and the resection

of scalp tissue, in face-lift procedures.

Anesthesia may be local, general, or regional block, depending on the extent of the problem, the age and apprehension of the patient, and the location of the scars or lesions for repair. Incisions should be in the least conspicuous locations possible. Postsurgical care may be by cold compresses, supportive pressure dressing, or by open treatment with strip support. Complications should be rare with good hemostasis, respect for the tissue, layer closure, and adequate prolonged support in an area requiring it.

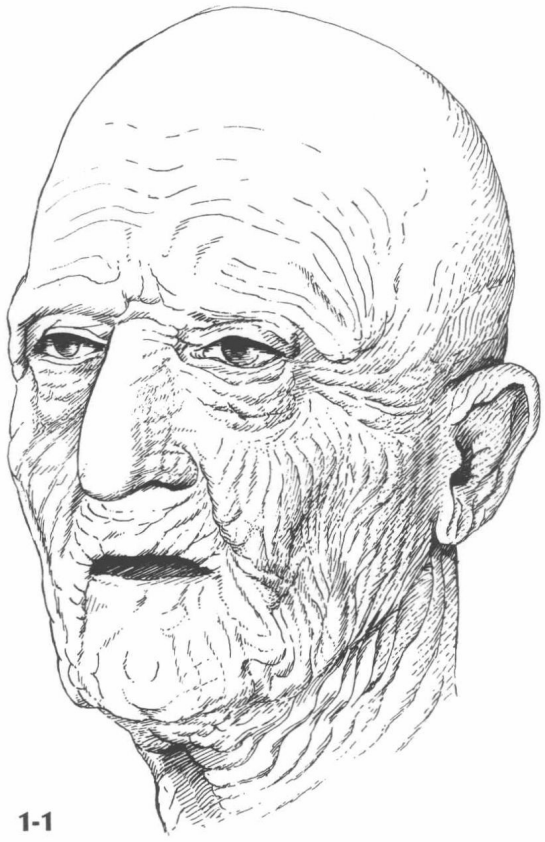
The less the postoperative edema and ecchymosis the more rapid the healing and the less the stretching of the skin and subcutaneous tissue in the early healing stages. Therefore the minimization of edema, ecchymosis, and hemorrhage into the wound improves the ultimate surgical result. This is important in the repair of wounds of the face (and other areas), in rhinoplasty, and especially is true of blepharoplasty and face lift procedures. It is also important with the insertion of grafts and implants such as bone and cartilage grafts to the nose, augmentation mentoplasty, augmentation mammaplasty, and subcutaneous mastectomy with reconstruction. Gentle handling of tissues and good hemostasis are important. The use of corticosteroids mixed with the local anesthetic solution has proved useful to the author.

One should avoid exposure to the sun until every bit of ecchymosis has disappeared for many patients are prone to become pigmented in areas of ecchymosis, and this pigmentation may be very slow to resolve.

FACIAL LINES
TENSION LINES OF SKIN

Figure 1-1
The natural lines of the skin are never more clearly demonstrated than in the aging face, where the fine and coarse wrinkles and the natural expression lines are exaggerated by the changes of aging. The natural tension lines of the face, as well as the expression lines, are deepened by the loss of fat in the dermis and the loss of elasticity of the skin.

Figure 1-2
The natural tension lines of the facial skin (Langer's lines). One seldom errs in following these lines for elective incisions of the face and neck.



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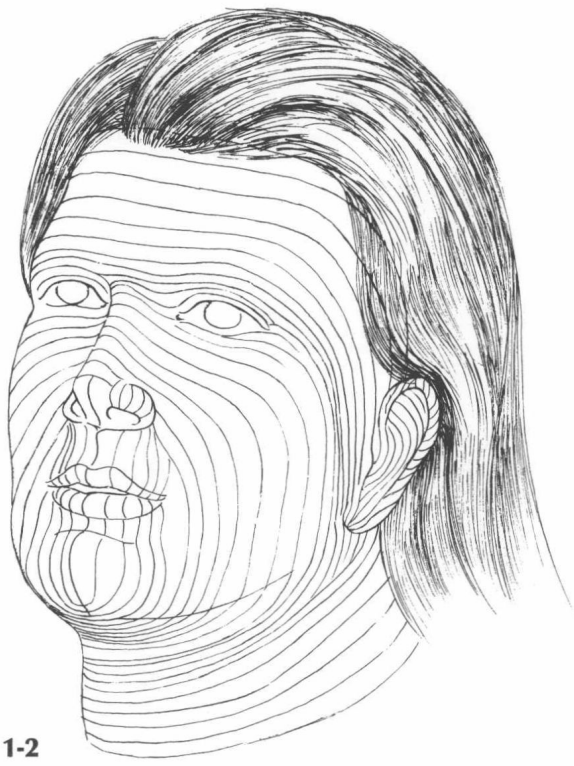

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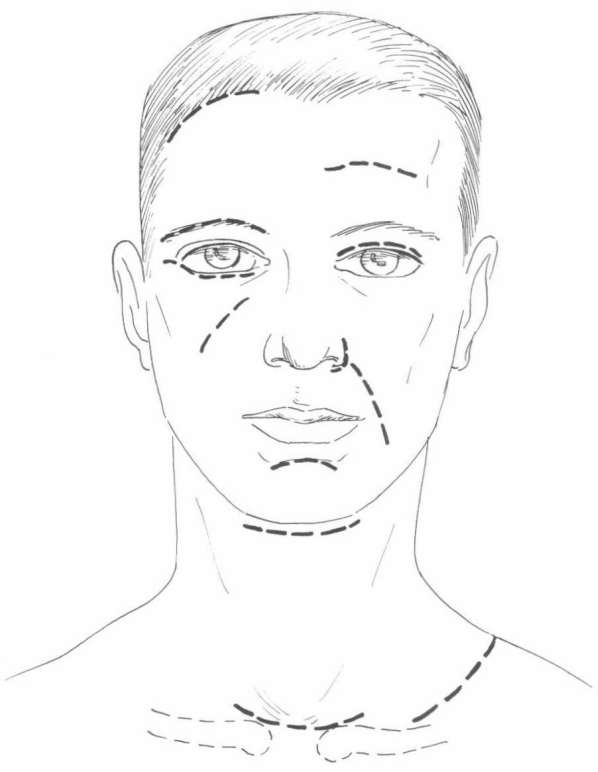
ELECTIVE INCISION LINES

Figure 1-3a and b
Elective incisions of the face and neck should be made in the least conspicuous areas possible, such as the hair-bearing areas of the temporal, frontal, and occipital scalp and the shadow below the jaw line. Second, they should be made in natural expression lines and creases, such as the nasolabial fold and the transverse wrinkles of the forehead. Third, they should be made in natural junction lines, such as the hair line, junction of ear to cheek, or junction of ala to lip or cheek. Fourth, they should be made in the natural tension lines of the skin (Langer's lines), shown in Figures 1-1 and 1-2.

If none of the elective incision lines recommended is practical for the performance of a surgical procedure, an interruption of the incision line should be made as it crosses any of these natural creases, junction lines, or major tension line areas by a Z-plasty, W-plasty, or V interruption. At the least, the incision should be curved over these areas to avoid tightness which calls attention to the incision line (see Figs. 1-9 through 1-13).



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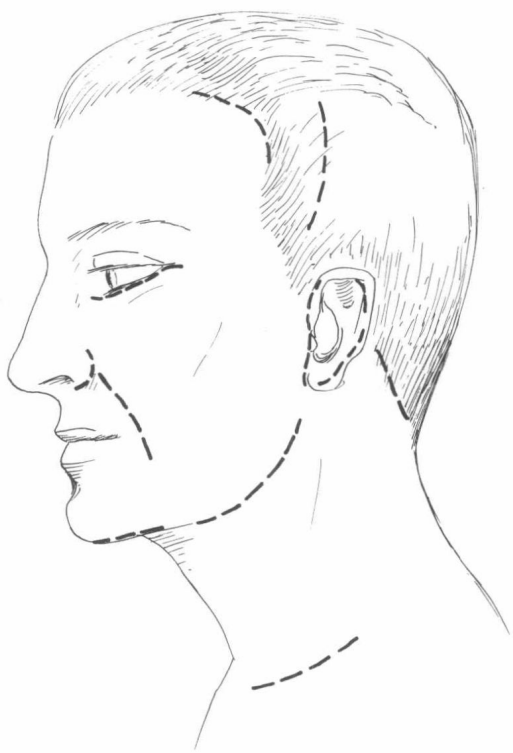

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1-3

LAYER REPAIR OF WOUNDS

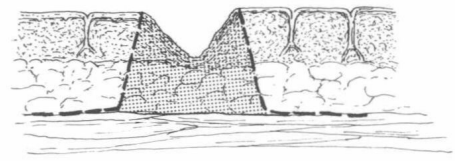
Figure 1-4*

a. In scar resection the incision should be made to go peripherally as it goes deeper, so that the layer repair will actually evert the skin edges and give extra support to the skin surface. As tissues heal and soften with the passage of time, the scar flattens with minimal spreading, though it is everted and raised at the time of repair.

b. Whether traumatic, for surgical exposure of underlying tissues or for resection of superficial lesions, a wound should be repaired in layers for the best aesthetic result. Support of the underlying tissues avoids a depressed scar or an adherent scar and gives support to the skin surface itself, thereby helping to avoid the wide, hypertrophic or depressed scar. It also lessens the need for prolonged external support by skin sutures. Buried sutures are placed in such a way that the knots are tied deeply in each layer of repair.

c. The most superficial of the buried sutures in the layer repair is shown with the knot tied deeply to avoid lumps or bumps in the scar. Repair of the deeper layer should be carried out in a similar fashion. The final skin repair may be by butterfly or strip support, by interrupted or running skin sutures which are removed early, or by an intracuticular running suture which may be left in place for prolonged support.

* Fig. 1-4 reproduced by permission from J. R. Lewis, Jr. *The Surgery of Scars,* 1964, Blakiston Div., McGraw-Hill Book Co., New York.



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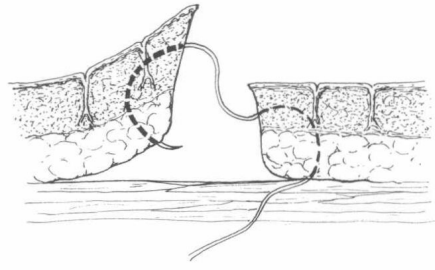

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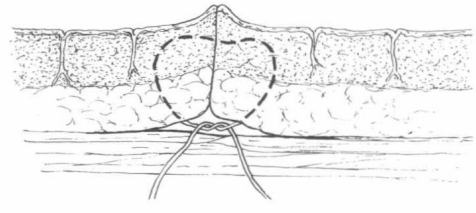


c

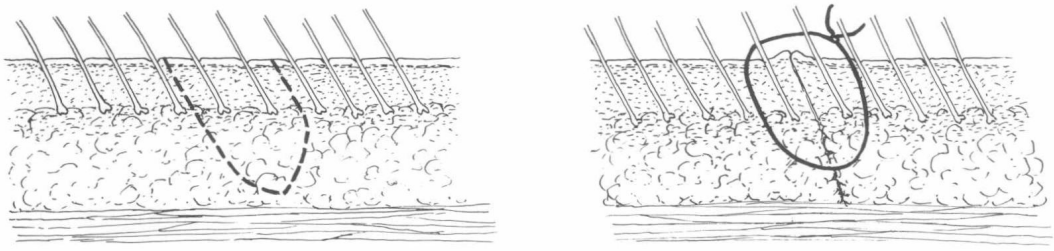
1-4

Figure 1-5

a. In resection of lesions of the scalp or resections of the scalp in meloplasty and rhytidectomy procedures, the incision should be beveled away from the hair roots. The scalpel is angled so that the incision progresses deeper toward the area to be resected, rather than undercutting in the opposite direction, as with the usual scar resections in non-hair-bearing areas. This preserves the hair roots in the edges of the incision and allows for hair growth right up to the fine line of the resulting scar. By beveling both incision lines toward the area to be resected, the hair roots are present close to the incised edges, and hair growth is usually little disturbed.

Also, in order to avoid disturbing the hair roots, a layer closure is seldom carried out in the scalp. However, a deep closure of the pericranium and occipitofrontalis layers may be done, so that the buried sutures do not damage the hair roots in the dermis and the immediate subcutaneous fat of the scalp.

b. Closure of the incision brings the hair roots, and thereby the hair growth, very close to the incision line. This makes it easy to mask the fact that an incision has been made in the scalp and usually leaves no visible evidence that a scalp resection has been carried out. This is especially important in the meloplasty and rhytidectomy procedures.



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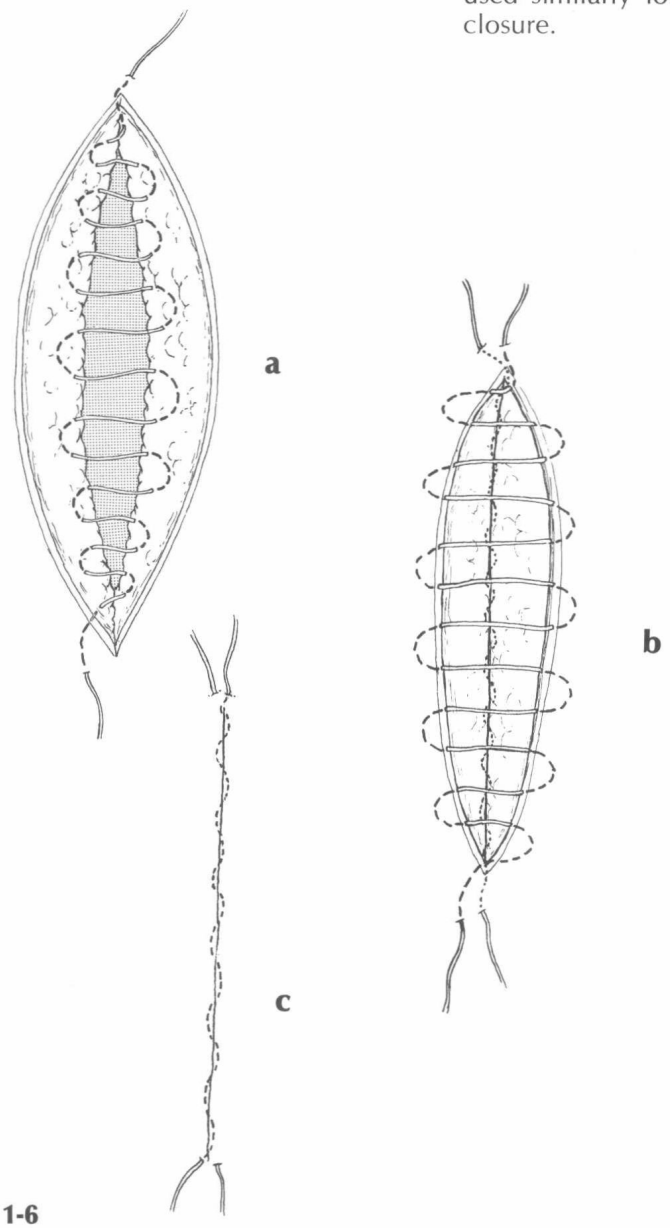
1-5

THE SUBCUTICULAR SUTURE AND THE RUNNING CONTINUOUS SUTURE CLOSURE



1-6

Figure 1-6

a. *Step 1:* This consists of placement of a deep-running, single-filament suture which grasps bites of tissue alternately on the two sides of the depths of the wound. Ordinarily, the suture is brought out at some point along the incision line if the wound is long and is brought out beyond the ends of the incision. Pulling the ends of the suture tightly closes the depths of the wound, as seen in step 2. For more superficial wounds or for those wounds which have been closed with multiple interrupted, deep-buried sutures, the intracuticular or subcuticular suture may be used similarly for the final skin closure.

b. *Step 2:* The deep running suture has been tightened by pulling each end, which approximates the deeper tissues. The superficial running suture has been placed, but has not been put under tension. Multiple running sutures may be used in this fashion for wound closure in lieu of buried interrupted sutures. The more superficial subcuticular or intracuticular suture may be left in place for an extended period for support, since it does not leave stitch marks.

c. *Step 3:* Completion of the multiple continuous suture closure of the wound. The multiple continuous running sutures (in this case, two layers of closure) may be tied together over a bolus of gauze, rubber sponge, or rubber drain at each end of the incision when it is deemed necessary to keep the sutures tight for support. However, the support of the running sutures themselves generally is adequate without their being tied.

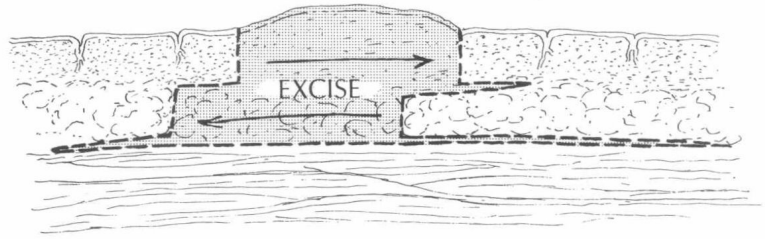
Later, removal of the continuous running suture is facilitated by a loop to the side of the incision or across the incision. This loop is usually kept loose so that it does not cut in and leave a stitch mark. The continuous running suture closure avoids the use of foreign suture material in the wound, and the sutures may be left in place for an extended period without danger of leaving stitch marks.

THE STAIR-STEP TECHNIQUE OF REPAIR

Figure 1-7

a. The stair-step resection of scars or lesions, and the stair-step incision to expose underlying tissues and to carry out procedures such as the augmentation mammaplasty (see Fig. 10-5), enable one to repair in a stair-step fashion with a sound layer closure. This makes for a safer wound closure, especially when there is tension on the edges, and makes exposure of foreign implants or grafts (such as breast prostheses, bone grafts, and cartilage grafts) less likely. Interruption of the continuity of the healing wound external to the graft or implant is not likely with this repair because it distributes and shares the tension in each layer.

b. This technique may be applied to any wound closure and in resection of superficial lesions or scars, as is demonstrated. The tissues usually keep their normal thickness to give a level skin surface, with less likelihood of spreading or depression of the scar line.



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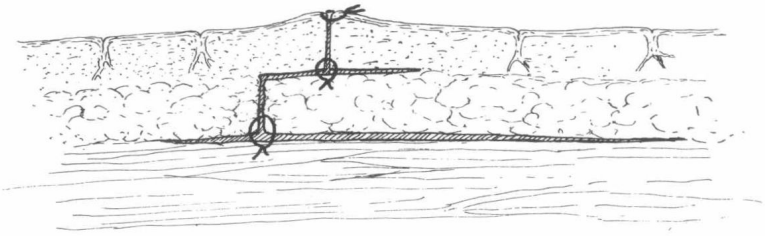

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1-7