COSMETIC DERMATOLOGIC SURGERY

Samuel J. Stegman
Theodore A. Tromovitch
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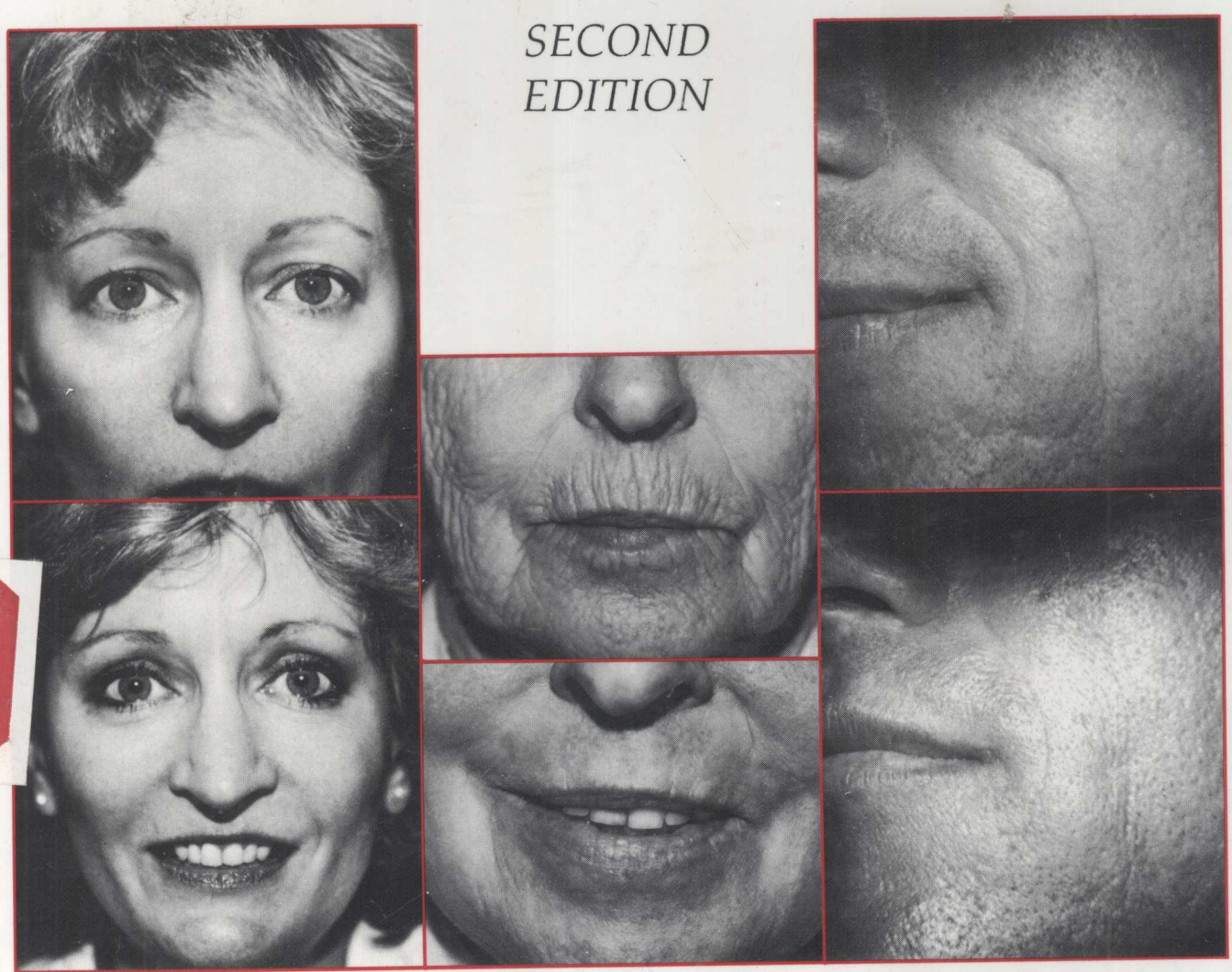
SECOND EDITION



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Mosby Year Book

St. Louis Baltimore Boston Chicago London Philadelphia Sydney Toronto

A Year Book Medical Publishers imprint of Mosby-Year Book, Inc.

Mosby-Year Book, Inc., 11830 Westline Industrial Drive, St. Louis, MO 63146.

2 3 4 5 6 7 8 9 0 PR 94 93 92 91

Library of Congress Cataloging-in-Publication Data

Stegman, Samuel J.
Cosmetic dermatologic surgery / Samuel J. Stegman, Theodore A. Tromovitch, Richard G. Glogau. — 2nd ed.
p. cm.
Includes bibliographical references.
ISBN 0-8151-7920-0
1. Skin—Surgery. 2. Surgery, Plastic. I. Tromovitch, Theodore A. II. Glogau, Richard G. III. Title.
[DNLM: 1. Skin—surgery. 2. Surgery, Plastic. WO 600 S817c]
RD520.S733 1990
617.4'770592—dc20 89-22576
DNLM/DLC CIP
for Library of Congress

Sponsoring Editor: Nancy E. Chorpenning
Associate Managing Editor, Manuscript Services: Deborah Thorp
Production Project Coordinator: Gayle Paprocki
Proofroom Supervisor: Barbara M. Kelly

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Preface

This is an entirely new book. A few of the drawings and photographs are repeated, but most are new and all of the text is new. A great deal has transpired on several planes since the first edition was published in 1984. In areas such as liposuction, blepharoplasty, and hair transplantation, fresh and innovative techniques have been developed. Chapter 6, Surgical Management of Alopecia, contains material on tissue expanders, and Chapter 7, Filling Agents, includes discussions of Fibrel, and Microlipoinjection, which were not even in use in 1984. Browlift and the use of tissue expanders for scalp reduction and tattoo removal are new subjects.

This is still a book for the dermatologist who is interested in surgery and cosmetic procedures. Our specialty has always included these subjects, and, appropriately, we are practicing them more and more frequently. Operations, treatments, and procedures on the skin and subcutaneous fat suitable for outpatient surgery are well within the purview of our specialty. Unfortunately, we have not totally overcome the resistance to this expansion from some of our competitors. They have hindered us by preventing us from obtaining hospital privileges or medical malpractice insurance for certain procedures. There has also been a cry in the media that the public must be "protected" from us. Gradually, however, we are convincing cooler, unbiased heads on the governing boards of hospitals and regulatory bodies to vote our way, and our detractors have yet to show that surgical complications and unsatisfactory results in our specialty occur at rates greater than those in other specialties.

Finally, we have joined the world of computer literacy. This is our first book to be completely composed, edited, and annotated on an Apple Macintosh II. As this book goes to the printer it is as up-to-date as possible, and we hope that it is easy and enjoyable to read.

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Contents

General Principles of Office Cosmetic Surgery

The Goal

The patient visit for a cosmetic procedure is much different from a visit for a physical ailment or medical examination. In cosmetic surgery, the patient's real goal is often subjective and sometimes obscure—even to the patient. Consequently, excising, changing, or correcting an obvious defect does not necessarily guarantee the patient's happiness. Therefore, it is worth the physician's time and effort to try to discover the patient's true motivation for cosmetic surgery and exactly what the patient hopes it will accomplish. Much of the time, the patient's wishes and goals will be straightforward. For example, if a patient says, "My eyes look tired," blepharoplasty may be needed. On the other hand, if the patient says, "What can you do for me?" the physician must ask careful questions to learn more about the patient's thoughts before rushing in to make specific suggestions.

Even though all medical visits are personal, patients consider cosmetic procedures especially personal, sometimes embarrassing, and even foolish. Approach each cosmetic patient as one who has a delicate personal problem. Avoid the unproductive and unpleasant mistake of confronting patients about problems about which they are uncomfortable. Although it is all right for a physician to walk into an examination room and say, "How did you get that rash?" or "How did you cut your cheek?" it is not appropriate to say, "Boy, do you need your eyes done," even if the patient has scheduled a blepharoplasty consultation. The consultation is the physician's opportunity to be gentle, nonjudgmental, and considerate. Patients may have feelings of guilt or vanity which they should be allowed to express in whatever way they wish. They should be permitted to verbalize their rationalizations for having cosmetic procedures. The physician then can use such appropriate reassurances as, "Many others have had this." Or, "This is what growing old gracefully means." Or, "Why not look your best?" There are some patients who by the nature of their personalities (and yours) are potential problems. Tardy compiled these traits in an article discussing face-lifts. The list is reproduced here (Table 1–1).[1]

Scheduling Cosmetic Consultations

A cosmetic consultation must not be hurried, or even seem hurried. Even for the simplest problem, allow a little extra time to fully discuss the proposed procedures and answer all of the patient's questions. Most patients have never had a cosmetic surgery consultation and will appreciate the change of pace and extra attention.

Although a few dermatologists limit their practices to cosmetic work, the majority combine cosmetic procedures with general and surgical dermatology and regular patients are an important source of small and large cosmetic procedures. Do not be caught off guard by the patient who says, "By the way, Doctor, while I've got you here, what do you think about this?" If time permits, sit down and talk about the problem, but if the problem is complicated, give these patients an idea about what might be done, discuss whether or not they are good candidates, and then schedule a separate consultation appointment. Some patients will think you are putting them off, and if you detect this feeling, suggest that they wait until after you have seen other patients who are waiting. They will appreciate your extra effort and rapport will quickly improve.

Office assistants, particularly booking assistants, need to be aware of the difference in the amount of time necessary for cosmetic proce-

TABLE 1–1.*
Potential Problem Patients

1. The patient with unrealistic expectations
2. The obsessive-compulsive, perfectionistic patient
3. The "sudden whim" patient
4. The indecisive patient
5. The rude patient
6. The overflattering patient
7. The overly familiar patient
8. The unkempt patient
9. The patient with minimal or imagined deformity
10. The careless or poor historian
11. The VIP patient
12. The uncooperative patient
13. The overly talkative patient
14. The surgeon shopper
15. The depressed patient
16. The "plastic surgiholic"
17. The price haggler
18. The patient involved in litigation
19. The patient you or your staff dislikes

*From Tardy ME, Klimsensmith M: Face-lift surgery: Principles and variations, in Roenigk RK, Roenigk HH (eds): *Dermatologic Surgery*. New York, Marcel Dekker Inc, 1988, p 1249. Used by permission.

dures. If they are scheduled skillfully, cosmetic patients can be handled smoothly and appropriately along with regular medical patients. Some physicians like to block out certain days or times for cosmetic work, and this is another way to allot the proper time and attention to these patients. The physician and the business manager must consider that cosmetic consultations can mean a loss of money, but it can be made up with the surgical fee.

Follow-up visits for cosmetic patients are just as important as initial visits and often just as time-consuming. Failure to recover from a medical illness after a single office visit does not surprise most patients. Cosmetic patients, however, may become frustrated and angry at the physician if they do not recover and see the benefits of cosmetic surgery within the time *they* consider appropriate. Rarely can follow-up visits from cosmetic procedures be charged. It is critical that somewhere or sometime it be communicated to the patient *before* the procedure what the fee includes in terms of follow-up visits. We agree to a specific time period for follow-up visits as part of the fee. After that, it becomes a new problem or a complication for which we bill the patient's medical insurance company.

Make yourself available to patients in the postoperative period. The first night and next day after any major procedure are critical for the patient, both mentally and physically. We give patients our home phone numbers or, if we are going to a restaurant, tell them where we will be. Although they seldom actually call, patients appreciate having this information. And, if a patient does have a problem, you want to be the first to know, so you can deal with the problem properly. Sometimes a patient with a problem will go to the hospital emergency room. There, well-meaning physicians who are ignorant about most cosmetic procedures may make the wrong diagnosis and alarm the patient. We have had postop peel patients call from a medical intensive care unit and tell us they have third-degree burns on their faces and why did we do that to them? In fact, the emergency room physician had never seen a peel. In other cases, the ER doctor may seek consultation with the surgeon on call who may also be ignorant of cosmetic procedures, or who may be a competitor, or unaware that dermatologists do surgery. The result may be to plant doubts in the patient's mind about the procedure you did or whether you should have been doing that type of surgery in the first place.

Although the temptation is strong not to reschedule troublesome patients frequently, that is exactly what should be done. If these patients need more support, ask them to return more frequently and schedule the extra time you know they will need. It is a good idea never to completely dismiss cosmetic surgery patients. Always leave the door open for follow-up. If there is a real or perceived delay to full recovery, offer to have the patient seen by another physician for consultation. The consultant can be one of your partners or a colleague whose practice is nearby. It is a helpful gesture for everyone: the patient is reassured, your treatment plan is reinforced, and the consulting physician learns firsthand about the range of recovery times.

The Consultation

The Patient Speaks

The first thing we do is give the patient a hand mirror and a cotton-tipped applicator. We ask the patient to use the wooden end of the stick as a pointer to indicate exactly where the problem is. The patient may hesitate or give you a funny look, but a simple statement such as, "It's important that we both see exactly the same things so I can best help you" quickly mollifies the patient. Do not be taken in by, "Why doctor, don't you see my problem?" Too many times we have seen a problem but it was *not* the problem the patient was concerned about. This can be an awkward way to begin the consultation.

We gently encourage patients to describe and point to what they see as bothersome or in need of correction. At the same time, we ask patients to tell us *why* something bothers them. It is surprising what some patients see and do not see on their faces. They can be concerned about their eyelids, yet not see three huge dark freckles and realize how unsightly they are. You may want to do the neck and chin; the patient may want only a little filler for the glabella. Do not underestimate the value of having patients tell you *why* something bothers them. It is the quickest way to get them to talk about pertinent matters, and you will also more quickly uncover any irrational thoughts, such as, "My heart medicine caused this," or "I've always hated this scar because it came from an accident." In fact, the scar may be tiny and almost unnoticeable but the patient's post-acne scarring may be horrendous. This tells more than you could ever uncover by questioning: the patient is seeking relief from a bad memory—something surgery seldom cures—or the patient wants to blame someone or something for an aging face. It helps you tailor your informed consent to know what the patient thinks.

The Examination

Look at the area in question, but check anything else that may help provide information about healing ability, scarring potential, or pigmentary problems. This is the time to gently suggest other cosmetic problems that may benefit from treatment. We usually ask first by saying, "Since you asked about matters concerning your appearance, you might want me to mention other procedures that may help you."

As you mention different things, pay attention to the patient's response. For example, if you point out an ugly mole, say it can be removed, and get a response like, "That mole is a family trait; my aunt has one like that," you know not to pursue it. Most of the time, however, patients are gratified at your thoroughness and glad to hear that certain growths can be treated.

The Informed Consent

At this point, the physician becomes the main speaker. First address the problem the patient came in for, and then discuss other problems that may have been uncovered in the interview or examination. Do not discuss any further issues the patient did not pursue.

Have in mind a complete and thorough explanation about each procedure, which can be complemented with printed handouts, videotape presentations, and other materials. The time that physician and staff spend providing explanations is the most important part of the visit.

An orderly discussion should include four main points. The first point includes the details of the *procedure*—what is done, how it is done, anesthesia, preparation, operative time, and immediate and long-term follow-up. The second point is the *prognosis*, where you try to communicate to the patient what you think will be the result. The third point is a discussion of the *complications*. Not all complications need to be mentioned—just the most common ones *and* those that may be more likely for that particular patient. Also discuss any complications a reasonable person would wish to know about in order to make an intelligent, informed decision about the procedure. And last, mention the *alternative* procedures available.

As important as communicating verbally with the patient is recording on the chart exactly what you said. Although there are many good ways to document the information that the patient received, all can be attacked by lawyers, and all can be ignored by juries. There is no such

thing as perfect informed consent. The best kind of informed consent demonstrates diligence, reasonable recording, and a sincere effort to tell the patient what can be expected. How society and the jousting of the adversary system view the physician's work is too unpredictable to worry about, and is the reason for carrying malpractice insurance.

The Fee

In addition to the usual variables that dictate fees including office location, overhead costs, and the physician's experience, cosmetic work carries the following special considerations

Time. All phases of the procedure use up more time than comparable medical and surgical visits. Time must be allotted for consultation, review and discussion immediately prior to the procedure, and early and long-term follow-up.

Malpractice Insurance. All insurance companies charge more when more than 5% of the practice is cosmetic.

Equipment. Special equipment for each procedure is mandatory. We are reminded how many new sets of liposuction cannulae we have purchased in the last 5 years just to keep up with the latest developments.

Training. For dermatologists, cosmetic surgery meetings and training seminars are seldom held in conjunction with regular general dermatology meetings, which means additional expensive trips away and time spent out of the office.

Attitude. Cosmetic procedures are elective and discretionary. When it comes to cost, patients want to hear one round number and not be bothered with itemization and tack-ons. These factors must be built into the fee for the procedure.

A fee payment schedule agreement with the patient is strongly advised. We ask for one-half the fee at the time the appointment for the procedure is made, and the rest on the day of surgery. Other physicians ask for the whole fee at scheduling or at a fixed time before the surgery. Any schedule is good as long as the patient has read and agreed to it. It is a service to patients to force them to commit their money ahead of time. They will have made the decision to have the procedure and not worry about it further. Advance payment also decreases (nearly eliminates) no-shows or late cancellations.

The Day of Surgery

We see the patient personally before any analgesics or anesthetics are administered. At this time we answer all questions, review immediate follow-up care, and make sure the patient has transportation home. At this time we also review the patient's recent medical history and make sure that preoperative photographs have been taken.

On the day of surgery, the physician, the staff, and the mood of the office should be unhurried but efficient. Because most dermatologists perform cosmetic procedures in the office, going to the phone or dealing with charts and staff are tempting while waiting to get started. However, do not attend to other business or do not let the patient see you do it. Give the patient no reason for any disquieting thoughts or memories. These simple steps can remove more patient anxiety than huge amounts of medications.

Reference

1. Tardy ME, Klimsensmith M: Face-lift surgery: Principles and variations; in Roenigk RK, Roenigk HH (eds): *Dermatologic Surgery*. New York, Marcel Dekker Inc, 1988, p 1249.

Two

The Skin of the Aging Face

In a systematic examination of the facial skin of a patient who is seeking cosmetic work, the physician will focus attention on what can be corrected. This will lessen the chance that appropriate treatments will be overlooked. When these treatments are explained to the patient, expectations will be more realistic. The systematic examination we have used for several years and which we discuss below can be accomplished in only a few seconds, once the physician is familiar with it.

We have never encountered a set of definitions for what much of cosmetic surgery is directed to correct—wrinkles. Therefore, the following definitions satisfactorily communicate our understanding of what wrinkles should properly be called. These definitions are based on macroscopic morphology as outlined in Table 2–1.

The broad division is into lines and wrinkles. Lines further divide into creases, folds, and furrows. A crease is a linear, discrete depression with a depth that extends no deeper than the dermis (Fig 2–1, A and B). A furrow is a depression of the skin that includes the dermis and the immediate subcutaneous fat (Fig 2–2, A and B). A fold is an elevation of the skin that includes the dermis and the immediate subcutaneous fat (Fig 2–3, A and B). The difference between a crease and a furrow is the amount of skin involved in the depression. The crease is narrow, with sharp walls, and involves only the dermis, while a furrow is broad, has more gentle, sloping walls, and includes full-thickness skin and subcutaneous fat. Folds and furrows are linear or curvilinear. Wrinkles are multiple, partial thickness, multidirectional elevations, or depressions in the skin (Fig 2–4, A and B). They are soft (easily pressed out) and sometimes cross each other, creating a checked appearance.

These definitions, when used, are added to the anatomic location—for example, vertical glabellar creases, deep medial cheek furrows, or upper lip wrinkles. Such statements denote more exact images. The smile line is complex in location (from the base of the nostril to the oral lateral commissure, or the cheek to the chin) and in morphology (furrow and fold, furrow and crease). With these new terms and mention of the anatomic location, exact terminology is possible. Previously the smile line was referred to as a fatty fold near the nose. Now it can be described as a shallow furrow near the commissure that runs onto the chin as a sharp crease. This describes exactly how the smile line appears, and as a result, communication—written or spoken—between physicians, or between physicians and patients, is much more accurate.

The Primary Factors

Aging, actinic damage, and loss of subcutaneous support tissues are the primary factors that contribute to changes of the facial skin (Table 2–2).

TABLE 2–1.
Morphology of Wrinkles

Lines
Creases
Folds
Furrows
Wrinkles

Inherent Aging

All systems apparently are affected by the "biological clock." Whatever the biological clock is or does affects the inherent construction of the skin. Several investigators have separated biological age changes from sun damage, and have shown that the quality of elastin and collagen fibers deteriorates with age.[1–4] Some people as young as 40 years old and all people by age 70 lay down new elastic fibers that are loosely and haphazardly arranged, and minimal elastin is formed. In the microvasculture of the skin, the veil cells produce excessive basement membranes and gradually decrease in number, which eventually leads to a thinner vessel wall.

The clinical manifestation of the above-mentioned changes and probably many others keyed to the biological clock is skin with much less resilience and snapback. This is skin that is slack and that hangs loosely. At present, we are not aware of any way to stop or alter these changes. Whether or not the induced generation of "new collagen" by the application of topicals such as Retin-A (tretinoin) or vitamin C will be significant is not known.

Actinic Damage

The second primary factor—actinic damage—is now largely preventable and it is hoped that most people will at least begin to reduce this type of damage. A quick and simple way to demonstrate to patients how much sun damage they have is to ask them to look at the buttocks or medial upper arm and compare that skin with the face, the V of the neck, and the dorsal hands and arms.

The effects of the sun are probably more pervasive than had been suspected. Changes are variable but present in all layers of the skin.[2] The

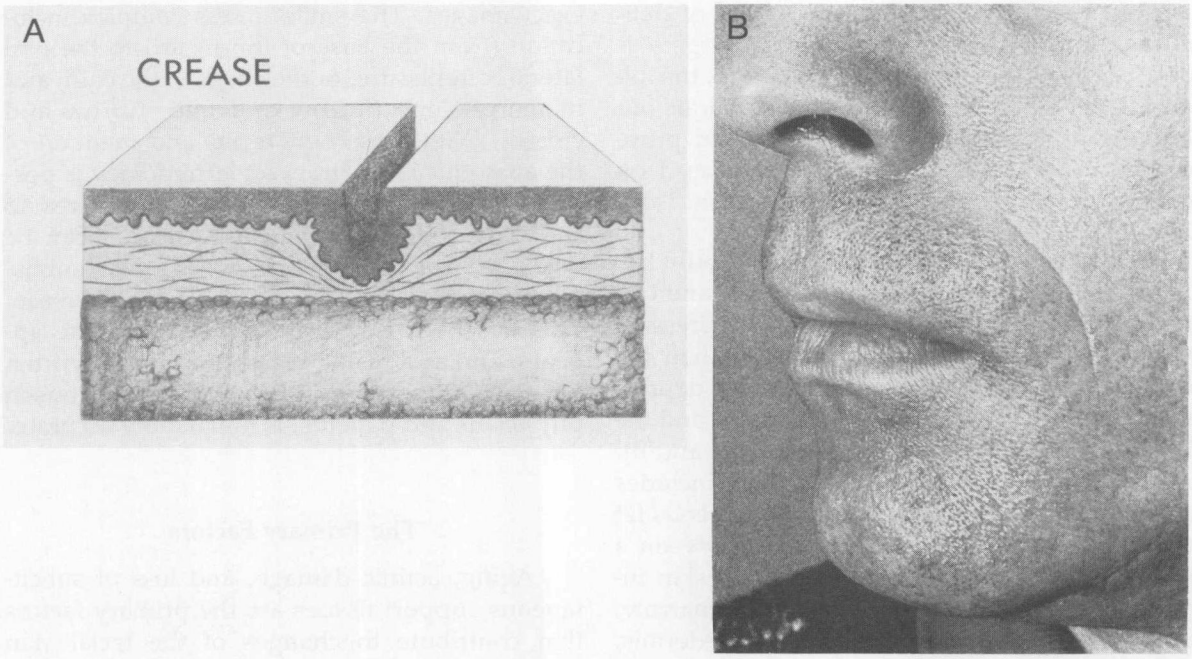

FIG 2–1.
A, diagram of a crease showing the narrow, straight walls; the depth is within the dermis. **B,** 35-year-old man with discrete crease smile line.

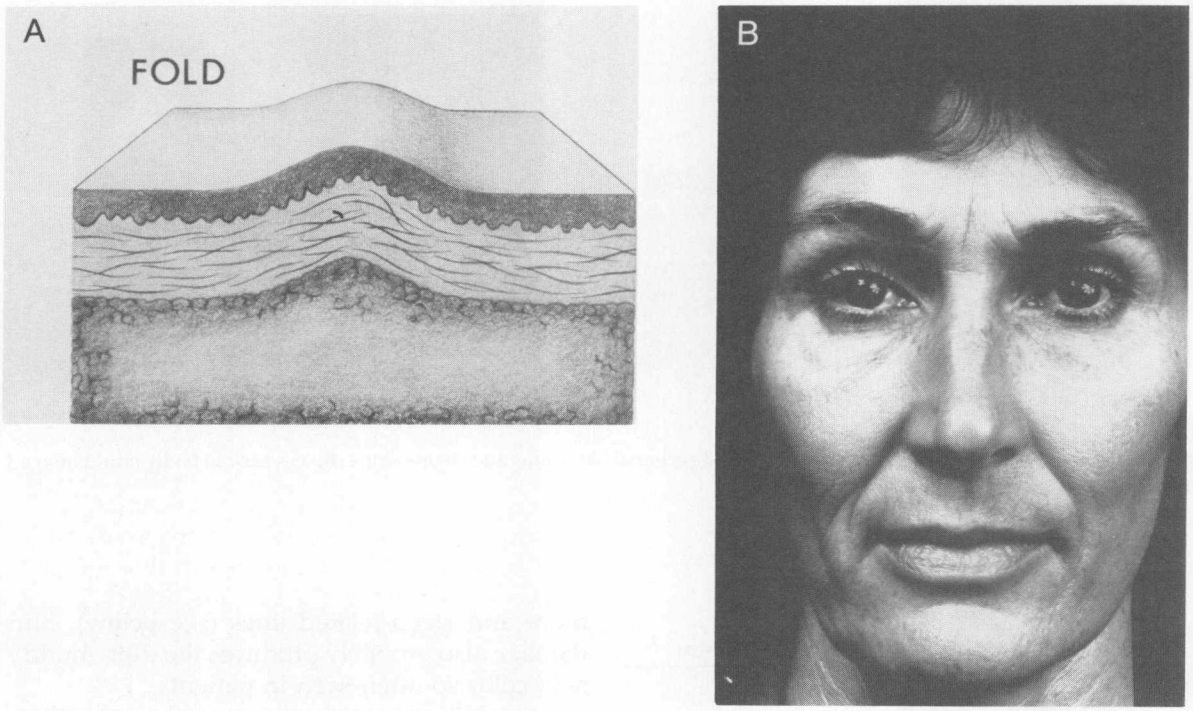

FIG 2–2.
A, diagram of a fold showing the mound elevation of full-thickness skin, including the subcutaneous fat. **B,** 45-year-old woman with smile-line folds.

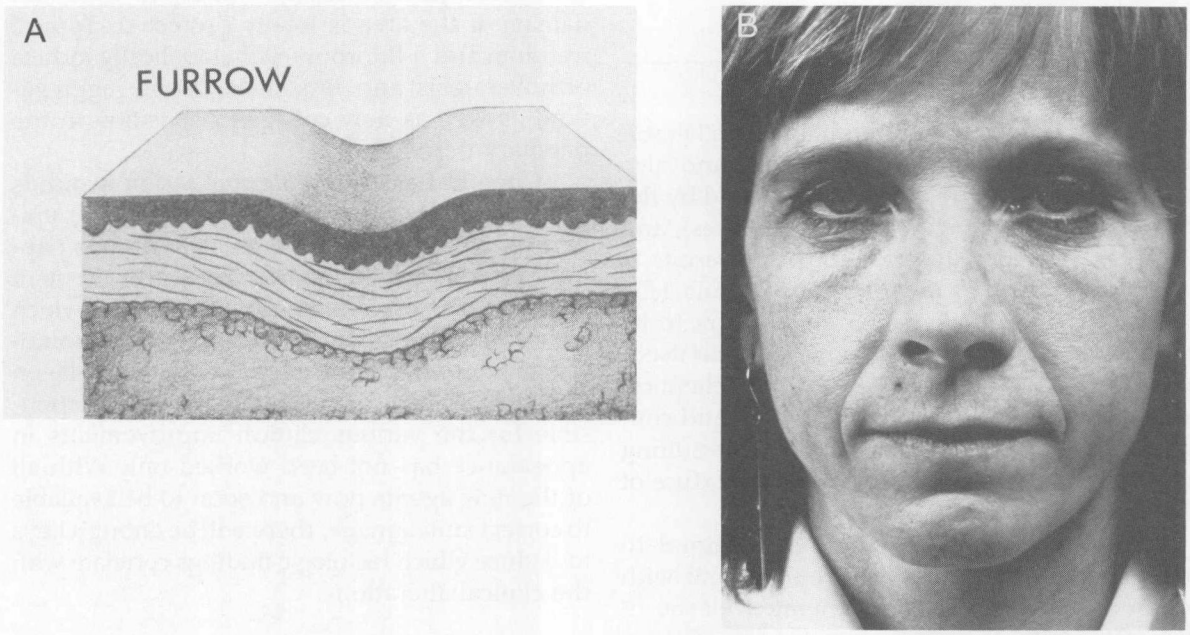

FIG 2–3.
A, diagram of a furrow showing the gentle sloping walls of full-thickness skin including subcutaneous fat. **B,** 40-year-old woman with smile-line furrows.

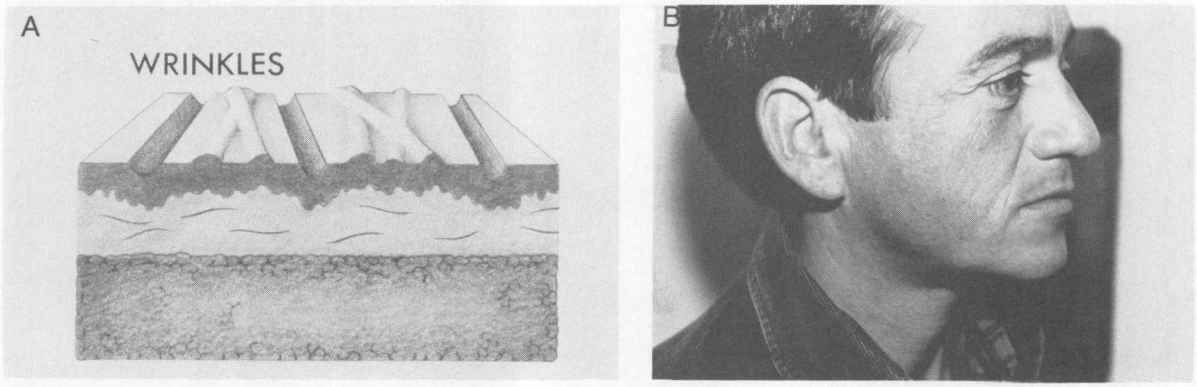

FIG 2–4.
A, a diagram of wrinkles showing the small, multidirectional elevations and depressions. **B,** 35-year-old badly sun-damaged man with wrinkles on the cheeks.

TABLE 2–2.
Factors That Contribute to Changes in the Skin

Primary Factors
Inherent aging
Actinic damage
Loss of subcutaneous support
Secondary Factors
Gravity
Facial movement
Sleep position

epidermis develops focal irregularities in keratin maturation, creating a rough texture and also actinic keratoses. The coloring is affected by the poor dispersion of pigment (melanosomes), and the light reflection to and from the dermis is irregularly altered by the thinner epidermis. Histologically, the papillary dermis appears to be affected least and is the most able to repair itself. However, 5-fluorouracil, Retin-A, and chemical peels all markedly affect the thickness and consistency of the papillary dermis, with resulting clinical improvement in the color and texture of the skin.

Dermal changes range from minimal to moderate to nearly complete replacement with an amorphous mass of degenerated elastic fibers. Clinically, there is circumstantial evidence that severe sun damage contributes to loss of elasticity and accentuates the retention of movement and sleep-related lines (see below). Sun damage also probably produces the dull, muddy skin color so often seen in patients.

In addition to protection from the sun, which fortunately is becoming more common for all ages, treatments are better understood and more readily available. Natural or self-healing, a newly discovered phenomenon,[5] will repair mild sun damage if the area is totally protected. Topical tretinoin and 5-fluorouracil metabolically induce orthokeratosis and less melanosome aggregation, as well as new collagen deposition in the papillary dermis.[6, 7]

Chemical peel and dermabrasion wounds heal with a nearly normal (histologically) epidermis, a thickened and more collagenous papillary dermis, and partial or complete replacement of dermal elastosis with a band of materials which stain deeply positive for elastin, glucosaminoglycans, ground substance, and new collagen (Fig 2–5). Which of these changes are responsible for the various clinical improvements in appearance has not been worked out. With all of the new agents now and soon to be available to correct sun damage, there will be enough keys to deduce which histologic findings correlate with the clinical alterations.

Support Loss

The third primary factor is the loss of sub-

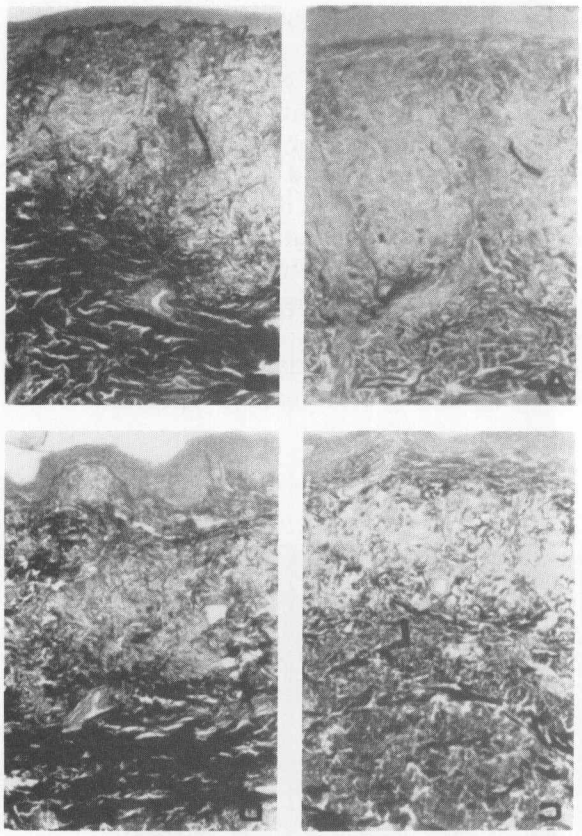

FIG 2–5.
Colloidal iron stains on sun-damaged skin. A normal control *(top left)*; 120 days after treatment with trichloracetic acid 50% *(top right)*, phenol 100% *(bottom left)*, and Baker's formula phenol mixture *(bottom right)* and occluded for 24 hours. Note the normalized epidermis, thicker papillary dermis with new collagen, and the dermal replacement of elastosis with new collagen and ground substance.

cutaneous support tissues which include bone and cartilage, and subcutaneous fat. Bone loss is an event of the sixth decade or later, and is noticed most around the mouth and chin. Loss of cartilage in the nose leads to falling of the tip of the nose and accentuation of the bony structures, producing in some patients the poly-beak, hanging-tip, narrow-nose appearance. Some of these effects are correctable with surgery or implants.

The earliest natural event on the aging face is loss of subcutaneous fat from the cheeks, followed in a few years by fat loss in the temples (Fig 2–6, A to C). Faces otherwise not marked by movement lines, gravity effects, or sun damage will show subtle indications of age because of these fat losses. Changes that can be seen across the room or down the block identify that face as older. Pudgy or fat faces do not manifest this early change, which is one of the reasons why pudgy-faced people seem to age so rapidly once they start to lose weight all over. Fat losses progress with age and eventually encompass the periorbital fat, all of the cheeks and chin (excluding the mental fat pad which produces the "witch's chin") and nose. Eventually, the support tissues are lessened to such as extent that the facial skin is too big and hangs loose and is redundant, while the eyes sink, the nose droops, and the perioral skin puckers.

Autologous fat-grafting or microlipoinjection (Chapter 7) is the treatment of choice for early fat-loss changes. Trying to "pull" out these concavities during a face-lift often results in a mask-like face; excessive augmentation of the malar prominence produces an appearance that is equally artificial. The replacement substance must be soft and voluminous, and right now fat grafting seems the best answer.

Secondary Factors

Gravity

When there has been loss of skin elasticity either from natural aging or severe sun damage or both, secondary factors appear. These are the effects of gravity, facial movement, and sleep position.

Gravitational pull on progressively less resilient skin manifests as ptotic eyebrows and eyelids, and formation of jowls and double chins; even the earlobes become longer and floppy (Fig 2–7).

The surgical techniques invented to correct the ravages of gravity have been some of the most successful in all of cosmetic surgery. Brow-lifts, blepharoplasty, rhytidectomy, and in some cases rhinoplasty all remove redundant skin and pull the important cosmetic features upward. When these operations are performed to correct gravitational drift, they are universally successful. But when they are used to improve sun-damage wrinkles, movement lines, or sleep lines,