Fig. 12  A-E, This 46-year-old woman underwent blepharoplasty and multiple adjunctive procedures including brow pad lipectomy, bicornal subperiosteal forehead lift, SMAS advancement, and suprachavicular neck lift. The patient is shown 5 weeks (F-L) and 3 years following surgery (M).
Fig. 12, cont'd  For legend see p. 60.
Blepharoptosis and the Ptosis Procedure

Blepharoptosis imposes important constraints on the planning and execution of upper blepharoplasty. The complexity of both the evaluation and the surgical execution is increased substantially.

Blepharoptosis has two hallmark deformities\(^{62-65}\): a high lid crease and an abbreviated margin reflex distance. It is recognized rather easily in most cases by noting the relative position of the upper eyelid margin using the pupillary light reflex as a point of reference as discussed in the section on preoperative assessment. These changes may be minimal or incipient (Fig. 13, A), and subtle degrees of preoperative ptosis may occasionally become strikingly manifest postoperatively due to swelling that increases the degree of dehiscence. In patients with advanced dermatochalasis, eyelid skin that drapes to the lashes and beyond may obscure abnormalities of eyelid position and the surgeon must elevate the skin to evaluate margin position.

When ptosis is noted preoperatively, its repair should be a \textit{planned} addition to the blepharoplasty procedure.\(^{66}\) The basic technique of upper blepharoplasty that we present lends itself readily to concomitant ptosis repair; exposure of the levator aponeurosis is routine. Preoperative evaluation includes an accurate assessment of the function of the levator palpebrae superioris muscle as this is critical to the selection of the proper surgical approach. Thumb pressure fixes the brow in normal position. The patient is first asked to establish full downward gaze. The patient is then asked to achieve full upward gaze. Assessment is accomplished by measuring the full excursion of the eyelid in millimeters. If the excursion is greater than 10 mm, advancement of the aponeurosis onto the tarsal plate usually will produce the desired degree of lid elevation. Lesser amounts of levator elevation require intensive levator dissection before advancement can be executed.

Full patient cooperation during the surgical procedure in our opinion leads to an optimal aesthetic result. Accordingly, sedation should be avoided until the ptosis has been corrected. It is equally imperative that anesthetic solution not enter the fibers of the levator muscle. Epinephrine stimulates contraction of the sympathetic muscle of the eyelid, producing transient elevation that, if not recognized and compensated for, may result in undercorrection of the ptosis. The use of agents containing vasocostrictors, useful in basic skin-muscle resection, preseptal and preaponeurotic fat removal, and fat-pad sculpting, is deferred until ptosis repair is completed.

After removal of the musculo-cutaneous-septal composite (see basic technique) and the meticulous establishment of hemostasis, the levator is incised along the entire length of the eyelid as it pierces the postorbicular fascia at the level of the superior tarsal border.\(^{67}\) The orbicularis muscle is reflected inferiorly to the base of the lashes by dissection in a plane posterior to the postorbicular fascia, exposing the tarsal plate. A natural contour is attained
by the placement of sutures at three cardinal reference points that intersect imaginary vertical lines drawn upward from the pupil, nasal limbus, and temporal limbus. Marks on the eyelid skin surface help to guide suture placement. Before the skin is scribed with methylene blue and the sutures are placed (Fig. 13, B), the patient must be instructed to direct his or her gaze to the straight-ahead position.

Our preferred suture is 6-0 silk on a double-armed TG 140 needle. It is first passed through the tarsus in the central pupillary plane, approximately 3 mm inferior to the superior tarsal border. The levator aponeurosis is then lifted to provide separation from the Müller’s muscle, and the sutures are passed through the posterior surface of the levator. A reasonable point to enter the aponeurosis initially is at its midpoint. The suture is then tied in a slipknot, and the patient’s gaze is directed straight ahead. If the lid rests at the appropriate level (1 mm higher than the fellow eyelid), the suture is permanently tied. It is not unusual to have to reposition the suture to another level within the aponeurosis until the desired eyelid position is attained. Clearly, the initial suture establishes the height of the palpebral fissure, whereas the nasal and temporal sutures, placed in an identical fashion, control the nasal and temporal contour of the eyelid margin. The remainder of the upper blepharoplasty is then completed (Fig. 14).

Fig. 13  A, The key to early diagnosis of blepharoptosis is the position of the eyelid margin above the pupillary light reflex. The margin encroaches on the pupillary highlight. The choice of repair depends on levator excursion. B, Aponeurotic surgery is the preferred method of treating ptosis if levator function is greater than 10 mm. If levator function is less than 10 mm, pure aponeurotic surgery is frequently insufficient; more extensive procedures are then necessary.
Approximately 15% of patients require lid position adjustment on the fifth postoperative day. The eyelid is anesthetized and then the wound is separated using gentle traction with a fine utility forceps and a cotton swab. The “lifting” sutures are easily identified and replaced with minimal discomfort to the patient. Hemostasis is reestablished and the wound is closed.

Fig. 14  A, This patient exhibits preoperative proosis as indicated by an abbreviated margin-to-reflex distance. Levator function exceeded 10 mm. B and C, The patient is shown after aponeurotic surgery, which is in our view the preferred method with these preoperative findings. This approach is particularly appropriate since the aponeurosis has been fully exposed after anterior lamellar resection (see basic technique and Fig. 5, C). The Fasanella-Servat procedure (tarsomyectomy) and conjunctivomyectomy (resection of conjunctiva and Müller’s muscle) have two theoretic advantages applicable to postblepharoplasty proosis: (1) they require minimal eyelid dissection and (2) they do not require reentry through the anterior lamella. Therefore the risk of resulting eyelid crease asymmetry is reduced.
Lacrimal Gland Prolapse and Orbital Lobe Suspension

The lacrimal gland is divided into orbital and palpebral lobes by the levator aponeurosis. The orbital portion resides at or above the orbital rim, but after the anterior lamellar composite resection (see basic technique) and after correction of the preaponeurotic fatty excess, the inferior edge of the orbital lobe may rest on the levator aponeurosis, producing a bulge (Fig. 15, A). The gland may be partially obscured by the lateral reach of the preaponeurotic fat pad; care must be taken to avoid injury to the gland during the removal of the central fat pad.

Repositioning of the gland’s orbital lobe is achieved by engaging the capsule with a 5-0 clear nylon suture. The suspension suture is then passed through the periorbita of the orbital roof just posterior to the superior orbital rim69-72 (Fig. 15, B). A half-circle (custom P-2) needle facilitates the repair (Fig. 16).

Fig. 15  A, Herniation of the orbital lobe of the lacrimal gland is best detected by palpation in the lateral portion of the superior aesthetic unit beneath the orbital rim. It is often hidden by redundant eyelid skin and brow ptosis. B, Suspension sutures engage the capsule of the gland and the superior peri-orbita. Amputation of the herniated lobe is ill advised.
Fig. 16 This 55-year-old man detected a palpable fullness in the superior outer quadrant of the left upper eyelid. Lacrimal gland ptosis was confirmed at surgery and repaired through the blepharoplasty incision. Permanent sutures were used for the suspension of the orbital lobe. Multiplane rhytidoplasty and lower blepharoplasty also were performed.
Blunting of the Eyelid Crease and Dermoaponeurotic (Supratarsal) Adhesion

Failure to establish a defined upper eyelid fold is an obvious mark of incomplete blepharoplasty (Fig. 17, A). Many surgeons have stressed the advantages of establishing an adhesion between the levator aponeurosis and adjacent structures (skin, dermis, muscle, or tarsus). Doing so produces a predictably high fold, smooths the pretarsal skin and muscle, and enhances the chance of achieving a symmetric result. Strategically, the adhesion created by suture fixation adds precision to the placement of the eyelid crease. It also may permit excision of lesser amounts of skin and muscle to achieve a comparable aesthetic outcome and it provides greater scar concealment. Finally, this technique may forestall the premature readvancement of redundant skin.

The fixation sutures may be passed through the aponeurosis or, if less clear definition is desired, fixation to the preaponeurotic fascia (a delicate areolar fascial layer on the anterior surface of the levator) may be performed. We prefer fixation of the central lid approximately 10 to 11 mm from the base of the eyelashes at a point directed above the center of the pupil. As suggested by others, the lid crease is placed at a lower level in men (8 to 9 mm) and in the elderly. Contour fixation is then achieved 7 mm from the margin at reference points that intersect the medial (nasal) and lateral (temporal) limbus (Fig. 17, B). Sutures of 6-0 nylon are used for the three fixation sutures. At times, thinning of the nasal aponeurosis precludes suture placement.

Additional continuous fixation across the eyelid then may be achieved by purchasing the aponeurosis or preaponeurotic fascia during approximation of the skin margins. We routinely use 7-0 nylon (P-6 needle) for the closure.

It is imperative that septal tissue not be incorporated in the wound closure. As long as incorporation of the septum is avoided, postoperative lid lag following skin-muscle-levator adhesion will be avoided.

The higher level of the lid crease in women is vigorously sought by the more informed patient (Figs. 18 and 19; see also Figs. 1, 7, 8, 10, and 12). The deeper sulcus is perceived as youthful. A smooth surface above the lid crease affords an opportunity for makeup enhancement. Lighting also “plays” the difference between the superior and inferior aesthetic subunits (see Fig. 3) above and below the neocrease.
Fig. 17  A, An indistinct lid crease is one of the earlier signs of aging and the most easily detectable marker of incomplete blepharoplasty. B, Redefinition of the lid crease is achieved precisely by establishing an adhesion between the preaponeurotic fascia or the levator aponeurosis and the margins (skin and muscle) of the resection. The adhesion sutures are passed through skin, muscle, and preaponeurotic fascia or levator aponeurosis.
Fig. 18  A-C, This patient was noted to have an indistinct left upper eyelid crease. Levator function was 11 mm. The unilateral abnormality was corrected using the lid crease procedure. She is shown several weeks (D) and 1 year following surgery (E).
Fig. 19  This 35-year-old woman underwent upper lid blepharoplasty with extensive resection of preseptal and preaponeurotic fat. A-E, Preoperative views.

Continued.
Fig. 19, cont'd Several fixation sutures, one of which is shown in F, were used to create a distinct upper eyelid crease. The patient is shown at 3 weeks (G) and 6 months following surgery (H-L).
CONCLUSION

Our general objective has been to rekindle interest in the aesthetic complexity and the interdependency of the periorbital region. The eyes are dynamic centerpieces, but the consequences of aging are often profoundly evidenced in the adjacent anatomic architecture.

For the surgeon committed to aesthetic surgery, we suggest specifically that anatomic problems identified in a broader area may be effectively addressed at the time of upper blepharoplasty. The terms "complete" and "incomplete" have been chosen to emphasize the importance of the systematic evaluation of all elements of the periorbital region. The assessment may then serve as a forum for discussion between patient and surgeon since clearly recognition of anatomic abnormalities does not mandate their repair.

Our predecessors in surgery have provided a variety of ingenious operative techniques applicable to the eyelid and to the extended area of the face. We have emphasized seven procedures, none or all of which may be considered, and some of which may be performed through the blepharoplasty incision. These adjucnts may be integral to a well-executed blepharoplasty.

In Love's Labour's Lost, William Shakespeare, another predecessor but no surgeon, touts the mystery of the human eye:

For where is any author in the world
Teaches such beauty as a woman's eye?
Learning is but an adjunct to ourself.

(4.3.312-314)

We would humbly expand the horizon to include the mystery of the periorbital region.
We acknowledge the influence of Clinton D. McCord, M.D., in our surgical approach to the surgical eyelid. The phrase "incomplete blepharoplasty" was coined by the first author during a discussion of common residual deformities following blepharoplasty when both authors were assisting Dr. McCord at surgery in 1985. The artwork is that of William M. Winn, M.S., Director, Medical Creative Services, Scottish Rite Children's Medical Center, Atlanta, Ga.

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I commend Drs. Pollock and Gossman for so nicely calling attention to a number of important details of upper blepharoplasty and brow lifting—details of preoperative patient assessment, selection of operative methods, and surgical technique that make the difference between good (or not-so-good) results and the terrific results that they have shown. I will comment on only a few of the points raised in their excellent article as a means of providing a wider perspective.

1. Although the goal for many female upper blepharoplasty patients is to have the most youthful and most glamorous upper lids possible, this should not be the objective in every case. Surgery should be custom-tailored for the individual patient. A “complete blepharoplasty” means that everything that appropriately should have been done was done; an “incomplete blepharoplasty” means that things were overlooked. Therefore at times purposely leaving some excess skin and fat behind should not be regarded as an “incomplete blepharoplasty” if this was the intended aesthetic goal. For example, a “conservative” correction of heavy upper eyelids and/or low-set brows often is the objective in male patients in whom it is important to avoid feminizing the eye zone. Purposely leaving a little extra skin also can be functionally important in patients with protruding globes, in those prone to “dry eyes,” and in those whose lids just barely close after a previous blepharoplasty. So too, although a surgical lifting of borderline-low eyebrows often will look good on many patients, the lifted brows in some other patients may, for purely subjective aesthetic reasons, just not “look right.” Adherence to a rigid aesthetic is best avoided.

2. It is important to appreciate the psychologic effect that a change in eyelid appearance can have on a patient’s self-image. For example, patients who since childhood or adolescence have had puffy upper eyelids often come to see themselves with “almond-shaped” eyes—a trait that to them helps to define who they are. For some of these patients, the conversion to “round-shaped” eyes (as occurs with surgical removal of the skin-fat hood and the sudden appearance of an arched palpebral-orbital sulcus) can be quite disturbing. These patients are inherently different from the more common group of patients whose eyelid skin laxity and puffiness are simply the result of aging and for whom restoring (or improving on) what they once had is usually welcomed enthusiastically. But for those patients who have never seen themselves “with eyelids,” an objective improvement in eyelid appearance (as judged by others) may not offset the subjective discomfort that comes from what the patient perceives to be a radical change in physical personality. The wise surgeon will assess and prepare these patients carefully. At the initial consultation, it is helpful to demonstrate the approximate change in appear-
ance that will occur with surgery by tucking in the excess eyelid skin and fat with the stick of a cotton swab while the patient looks in a mirror. If the patient seems uncomfortable or ambivalent with the “new look,” it is best to discuss openly the possible psychologic implications of altering eyelid appearance and to recommend either not doing the blepharoplasty or postponing a decision until the patient has carefully considered the options. A second consultation is often worthwhile. I have learned the hard way that in some cases the best operation is no operation! On the other hand, I also have had some of these patients request and then undergo a very conservative blepharoplasty only to have them come back to me 6 months or a year later saying that they wished they had opted for the “complete job.” I relate this scenario to those requesting a minimal procedure to prepare them for possible dissatisfaction with the postoperative results. Nevertheless, it is prudent in the occasional patient to purposely “underdo” the operation, knowing that the patient may elect to undergo a more complete procedure later.

3. In regard to surgical technique, I must admit that I see no particular benefit to the authors’ method of excising a composite strip of skin, orbicularis muscle, preseptal fat, and orbital septum all at once. To me, it seems safer to excise just the predetermined ellipse of skin and orbicularis muscle together first, leaving the orbital septum initially intact. Then, with a broad view of exposed septum, I can pick with precision the spot for opening through to the periorbital fat, with perhaps less risk of injury to the levator aponeurosis. Although I generally endorse the authors’ preference for the routine wide exposure of deep lid anatomy, there are patients in whom it is unnecessary to completely open the orbital septum, as is the case in those who present with a very deep palpebral-orbital sulcus across most of the lid with some localized puffiness medially. In these patients, since no periorbital fat should be removed from the lateral two thirds to three fourths of the transverse fat compartment, the orbital septum need only be opened medially to specifically remove the offending fat.

4. I concur that not excising excess submuscular (suborbicularis) brow fat is often the cause of incomplete blepharoplasty, particularly in patients with thick lateral brow soft tissues. However, I never perform a “complete excision” (whatever that means) of this submuscular fat as Drs. Pollock and Gossman suggest they sometimes do. I have seen a few patients in whom too much brow fat was removed, which produced an unpleasant flatness and caudal displacement of the eyebrows from lack of subcutaneous support. But in almost every female upper blepharoplasty patient, even those without thick brows, I remove a narrow strip of orbicularis muscle and submuscular (preseptal) fat overlying the perioseum of the supraorbital rim along the full width of the upper skin incision edge (using needle-tip electrocautery), not only to allow the lower brow tissues to drape more attractively over the bony rim but also to allow a smooth join with the thin pretarsal skin-muscle edge below.
5. I also would emphasize that submuscular brow fat excision, like upper eyelid skin excision, is not a substitute for a surgical brow lift in the patient whose apparently heavy lids are the result of gravitational brow ptosis. If brow ptosis is present, either it should be corrected alone first (if the upper lids do not need correction once the brows are lifted) or the brows should be lifted at the time of upper blepharoplasty. However, an upper blepharoplasty alone should not be done as an initial independent procedure in the presence of brow ptosis, not only because the brows may be pulled unattractively lower but also (and more importantly) because it is likely that an insufficient amount of brow-lid skin will be left behind to allow the brows to be lifted in a later procedure and still allow the upper eyelids to close completely following the brow lift.

6. When a coronal forehead-brow lift is done along with an upper blepharoplasty in the same operation, I do not think it is necessary to perform the forehead-brow lift first. In fact, I prefer to do it the other way around: blepharoplasty then brow lift. I like to do the eyelid finesse work first, before the swelling and distortion that result from the brow lift (or face lift) manifest. The key maneuver in avoiding postoperative lagophthalmos is the precise preoperative delineation of the amount of upper eyelid skin to be excised, which is done while the brows are held in the elevated position. Before surgery, with the patient sitting upright and the lids kept comfortably closed, I use the fingers of my left hand to lift and support the brow at the desired height while the excess skin above the supratarsal incision line is pinched at various locations across the lid with the tips of a small forceps. Blue dots are made and then connected with a marker to outline the ellipse of skin to be removed. At surgery, after the upper blepharoplasty has been completed, the forehead-brow lift is done so as to avoid opening the eyelids. This technique is safe and the outcome predictable.

7. If it is decided to use an incision along the edge of the central forehead hairline for the forehead-brow lift (e.g., in patients with a high hairline), a wiggly (not a straight) incision line should be made 1 to 2 mm behind the hairline (not at the hairline), with the incision beveled forward (caudally) in the subcutaneous fat to preserve the hair bulbs so that hair can later grow through the scar to help hide it.

8. I highly recommend the use of a suction drain beneath the forehead flap in every case of brow lifting. With a suction drain in place, postoperative periorbital swelling and ecchymosis are greatly diminished.

9. As for the surgical approach to the correction of acquired upper eyelid ptosis, in cases in which the levator aponeurosis is found to be attenuated but with the insertion into the tarsus intact, I do not think it is necessary or helpful to dissect out or disconnect the levator insertion before repair. In this situation I simply imbricate the stretched-out aponeurosis with several 5-0 or 6-0 chromic catgut sutures. If at surgery the levator insertion is found to have pulled away from the tarsus, I advance it downward without much dis-
section required and secure the levator to the upper edge of the tarsal plate with interrupted mattress sutures. (An important difference in the repair of acquired vs. congenital ptosis should be kept in mind: In acquired ptosis the rule of thumb is 50% undercorrection to avoid all too common iatrogenic lagophthalmos, whereas in congenital ptosis the levator shortening is purposely overcorrected by 50% to prevent persistent ptosis.) In cases of acquired ptosis, even when the lid margin is set at exactly the correct position, some patients will have difficulty closing the upper eyelid completely, particularly when they are sleeping. They are at risk for exposure conjunctivitis and/or keratitis for weeks or months postoperatively until the tissues relax. Patient and surgeon should be prepared for this possibility, and the use of ointments, Saran Wrap patching at night, and consultation with an ophthalmologist may be needed until lid closure is adequate. In my experience, correction of acquired lid ptosis, although technically simple, should not be taken lightly. I very much like Drs. Pollock and Gossman's approach to readjusting the position of the levator fixation sutures on the fifth postoperative day as indicated.

10. Prolapse (ptosis) of the superficial (palpebral) lobe of the lacrimal gland is a condition that should be looked for on preoperative examination and corrected at surgery as described in the article. However, I have found that it is very easy to produce prolapse of the palpebral lobe of the gland at surgery when the orbital septum is opened far laterally to remove periorbital fat from the lateralmost portion of the transverse fat compartment because the gland is actually attached to the tail of the fat. To keep a nonprolapsed gland tucked up under the lateral orbital rim, I purposely avoid opening the lateralmost part of the orbital septum if I can, and I prefer to gently pull out the fat from under the lateral septum for excision whenever possible. If the gland is prolapsed (idiopathic or iatrogenic), one or two 5-0 or 6-0 chromic catgut sutures between gland capsule and periorbital inside the lateral orbital rim will tuck the gland away, but care should be taken to avoid catching orbital septum in the sutures, which could easily produce lagophthalmos.

11. I have no great objection to the use of supratarsal fixation sutures, but I do not think that they are needed to achieve elegant and long-lasting pretarsal skin tightening and supratarsal skin crease definition. The key to success is, I believe, the natural adhesion between skin and levator aponeurosis that occurs as a result of excising a strip of preseptal orbicularis oculi muscle. Only in cases in which the pretarsal skin-muscle layer is separated from the underlying tarsus do I resuspend the pretarsal tissues with sutures (e.g., when orbital fat is removed from over the tarsus in the conversion of an Oriental to a western eyelid, or after the tarsus is uncovered for suture placement in the correction of congenital ptosis). I have seen cases in which supratarsal fixation sutures have produced irregularity along the skin closure line as well as mild lagophthalmos by puckering the levator aponeurosis; however, both problems are usually temporary.
The preceding article by Drs. Pollock and Gossman re-focuses our attention on adjunctive procedures designed to enhance the basic upper blepharoplasty. Quite appropriately, they emphasize the key role played by the shape and position of the brows.

The eyebrow. Surgical repositioning of the brows is often crucial to successful blepharoplasty. In my practice, subgaleal coronal brow lift has long been a routine part of upper lid rejuvenation. The authors recommend subperiosteal dissection over the orbits and zygoma, which may provide better elevation of the periorbital soft tissues. The recent modification by Ramirez, Maillard, and Musolas, in which the arch is approached under the deep temporal fascia, may reduce the risk of frontal branch nerve injury.

I am intrigued by the lateral brow procedure the authors call “brow contouring,” which was originally described as “transblepharoplasty brow suspension” by Sokol and Sokol in 1982 and more recently as “browplasty and browpexy” by McCord and Doxanas. Essentially, this technique involves resection of the fat pad deep to the brow and then suture fixation of the raw area to the orbital rim periosteum. The authors believe that the procedure is best suited for the younger patient with early lateral brow laxity. They stress that only minimal brow elevation is achieved.

I have never performed browpexy or brow contouring, and I must admit that I am still struggling with the concept. At best, it seems to me, this procedure would achieve fixation rather than elevation of the brow. It might serve to reduce postoperative descent of the brow, which is sometimes a problem when large eyelid resections are performed. But how long would the effects of such an operation last?

The authors give no idea as to the longevity of brow contouring results, and most of the follow-up photographs are very early postoperative views. Likewise, McCord and Doxanas (who have performed “over 500 brow pllication procedures”) were exuberant about browpexy but gave not the slightest hint as to how well the results lasted over time.

To prepare for this commentary, I called Dr. A. B. Sokol, one of the authors of the original article a decade ago. He was sorry to give me a negative report: “The operation has not withstood the test of time. It rarely lasts more than 1 year. It is more a temporizing procedure. I have abandoned the procedure and now do coronal brow lift for ptotic brow.” Dr. McCord, however, is “happy with the procedure. I feel it holds up pretty well. The key is patient selection and creating the raw area over the brow for adhesion.”
Basic blepharoplasty: resecting orbital septum. There are currently two quite different approaches to upper blepharoplasty: (1) large (maximal) tissue resections and (2) more conservative tissue resection combined with tissue invagination. The authors emphasize the large-resection approach and boldly carry the resection one layer deeper than most to include a large resection of orbital septum. Referring to the diagram in Fig. 5, B, they resect orbital septum quite high, near the orbital rim, in part to gain “access to the deeper structures of the eyelid.”

I am not enthusiastic about resecting substantial portions of the orbital septum for a number of reasons. First, the free edge of septum may form its own adhesion with the levator aponeurosis separate from (and higher than) the patient’s new fold. This “extra” fold may be very hard to correct. Second, although this radical resection of septum (usually combined with aggressive preaponeurotic fat resection) may give a very deep appearance to the sulcus, the ultimate appearance may be neither youthful nor attractive. Many years postoperatively, the eyelids may appear hollow and overdone. Even worse, high resection of the orbital septum may preclude a coronal brow lift years later, either because of lagophthalmos or because the high incision (scar) will be pulled upward out of the sulcus. In my opinion, there is no reason to widely resect the orbital septum.

Tissue invagination and ptosis: dealing with the levator aponeurosis. There are two basic ways to invagine upper lid tissues: simple and complex. The irony is that the simple technique may be more prone to complications. As Fernandez noted many years ago, the simple technique is satisfactory only for patients requiring a minimal change in lid fold level. The simple technique is basic blepharoplasty followed by suture of the undissected levator aponeurosis to the lower (pretarsal) margin. The authors use this technique to define the lid fold, but the indications for this procedure are not discussed.

When repairing ptosis, the authors opt for the more complex technique, which frees the aponeurosis from its fascial attachments. They then advance the free edge and suture it 3 mm below the superior tarsal border. Unfortunately, 15% of patients require lid position adjustments on the fifth postoperative day. It is not clear whether these adjustments are required for undercorrection or overcorrection or whether the percentage has diminished with experience. I have considerable experience with ptosis surgery and applaud the authors for freeing the aponeurosis rather than just plicating. My preference, however, is to have all the fasciae meet at the level of the new fold. Therefore I shorten the aponeurosis 1 to 3 mm and use advancement only rarely for a final small adjustment.
Eyelid aesthetics. Most would agree with the authors regarding the features of a “fully restored” upper eyelid: crisp crease, smooth drape of pretarsal tissue, and open (nonptotic) palpebral fissure. Large tissue resections will produce a high fold, but over time the crease may become blunted and pretarsal wrinkles may reappear. Secondary excisional procedures are possible, but after large primary excisions, secondary procedures run the risk of resulting in incomplete lid closure and dry eye.

In my opinion, the goals of a crisp fold, smooth pretarsus, and open fissure

![Image of eyelids]

Fig. 1 A 66-year-old nurse anesthetist had excisional-type blepharoplasty 7 years previously. She complained that within 1 year after surgery, her eyes appeared small as they did preoperatively. She did not desire a brow lift. A, Preoperative view. B, Eighteen months after invagination blepharoplasty. C, Six years postoperatively with makeup removed. (A and B from Siegel RJ. Advanced blepharoplasty. In Regnault P, Daniel RK, eds. Aesthetic Surgery. Boston: Little, Brown, 1984.)
are more readily obtained using smaller tissue resections and techniques that invaginate the lid. Invagination techniques are nicely complemented by coronal brow lift, never result in lagophthalmos, and produce results with excellent longevity (Figs. 1-3).

Obviously, I have some differences of opinion with the authors. Nevertheless, they have shown some very nice postoperative results. In sum, the refinements presented by Drs. Pollock and Gossman may be appropriate adjuncts to upper blepharoplasty, especially in the youthful patient.

Fig. 2 A 76-year-old Japanese man complained of difficulty seeing. A, Preoperative view. Note the position of the brows. B, Two years after invagination blepharoplasty. C, Eight years postoperatively.
Fig. 3  A 29-year-old woman complained of small eyes and smudging of makeup due to a low fold. A, Preoperative view. B, Three weeks after invagination blepharoplasty. C, Fourteen years postoperatively.

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The Last Word

Richard A. Pollock, M.D., and M. Douglas Gossman, M.D.

Dr. Feldman, in providing eleven comments, reaches his goals. His points are additive and expansive and indeed provide "a wider perspective."

Dr. Feldman would still opt to excise muscle and skin as a composite and then "pick with precision the spot for opening" the septum. We would submit that "the spot" should always be over the underlying central preaponeurotic fat pad, specifically on the axis of the mid-pupillary line. To enter medially places the trochlea and associated structures at risk. Off the midline there is greater potential risk of injury to the levator aponeurosis.

Gentle digital pressure applied to retrodisplace the globe increases orbital pressure, causing the preaponeurotic fat and orbital septum to bulge forward. This maneuver by the surgeon increases the distance between the levator aponeurosis and the anterior lamella, thus minimizing the potential for injury when the septum is entered.

Supratarsal fixation sutures through the levator aponeurosis, as observed by Dr. Feldman, may cause "irregularities along the skin closure," even "mild lagophthalmos, by puckering the levator aponeurosis." We too have noted this biomechanical interference. We therefore have abandoned purchasing the aponeurosis in supratarsal fixation. Instead the musculocutaneous inversion suture is passed through preaponeurotic fascia, just superficial to the aponeurosis. The benefits of suture fixation (rather than relying on natural adhesion) are delineated in our article.

Dr. Feldman's comments regarding ptosis are informative. They reflect considerable experience with ptosis surgery and bear careful study.

Dr. Siegel offers some candid insights. He focuses on the key role played by the shape and position of the brows in the successful performance of upper blepharoplasty.

We offer some thoughts of our own provoked by his constructive criticism:

1. Brow contouring offers the lateral brow a temporary reprieve from the effects of aging, lasting 4 to 5 years. The aging process guarantees that ptosis will return in the lateral and medial brow. The rash of articles published in the 1970s offer the definitive management of late brow ptosis: a forehead lift. In the younger patient, brow contouring through the blepharoplasty incision buys aesthetic improvement and time.
2. The upper limb of the anterior lamellar incision should not be construed to be “quite high, near the orbital rim.” The upper limb of the incision is determined solely by the extent of needed skin resection and thus varies from patient to patient. The septal opening is placed nearer to the superior orbital rim than to the musculocutaneous incision. This placement ensures entry at the level of the preaponeurotic fat at the greatest distance from the levator aponeurosis, thus avoiding injury to the levator. Placing the septal opening at this level also reduces the risk of inadvertent purchase of the orbital septum during closure.

3. Dr. Siegel catalogs several potential problems with the resection of the sleeve of redundant septum. None of these problems has occurred in our 5-year experience.

We concur with Dr. Siegel that adjunctive procedures through the blepharoplasty incision are better executed in younger patients who are in their late 30s and on occasion in patients in their early 40s.

REFERENCES


