

Upper Blepharoplasty: Advanced Techniques with Fat Repositioning and Muscle Modification

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Introduction

Upper eyelid blepharoplasty is one of the oldest and most effective cosmetic surgeries. Simply removing a fold of redundant skin can improve appearance and in some cases expand peripheral vision. Astute surgeons have evolved from purely skin excision to an appreciation of three-dimensional curves of the face and lids. Certain highlights and shadows of the face are markers of youth, while others connote aging. Facial contours known as an ogee describe a convexity of the cheek sloping gently to a concavity of the submalar area. The face in fact is a double ogee with the most superior convexity the brows and the inferior concavity the lateral canthus. Likewise, the upper aesthetically pleasing upper eyelid is also an ogee or sigmoid curve in three dimensions. The lateral lid brow complex displays a convexity which gently slopes to a concavity of the medial upper lid. Understanding the subtleness the aesthetic upper lid curves is essential in tailoring the optimum blepharoplasty result. This concept of three-dimensional thinking has lead surgeons to progress from simply skin excisers to true facial sculptures.

Concepts of Upper Eyelid Beauty

The eyes are the first place people look, and the eyelids can convey many perceptions of a person from a tired, worn look to a bright, youthful appearance. As far back as the ancient Egyptians reports of surgically removing skin have been recorded along with the application of eyeliner to enhance the periorbital area. As we age predictable changes occur that typify the aging upper lid. There is a consistent contour shift which includes medial fullness from excess fatty herniation through a weakened septum. This is accompanied by

a deflated, sunken lateral upper lid, with lateral lid-sub brow fat atrophy. In addition the thin lid skin is thin and lax, contributing to a redundant, hooded lateral lid typical of aging (Fig. 21.1). In order to counteract the aging changes in the upper lid, medial fat must be reduced while adding volume back laterally. Traditional upper lid blepharoplasty may not achieve true rejuvenation as purely removing skin can create a skeletonized appearance (Fig. 21.2). In fact earlier techniques described debulking lateral lid or brow fat to create more tarsal show [1–3]. This can accentuate a hollowed and



Fig. 21.1 The upper lid is characterized by predictable aging stigmata. This patient demonstrates the characteristic medial fat herniation, giving fullness to this area and a deflated lateral sub brow fat area with skin hooding. The soft tissues changes give a comma shape (black dotted line) seen in the aging upper lid in contrast to youthful sigmoid contours

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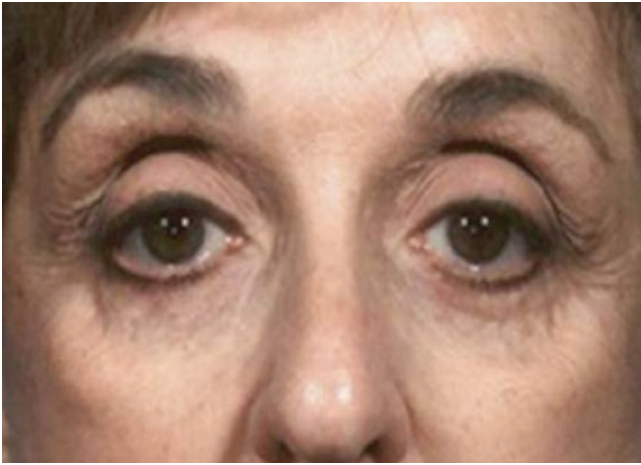


Fig. 21.2 This patient demonstrates the sequela of traditional blepharoplasty with a hollowed, sunken upper lid due to aggressive fat and tissue removal. The result is an aged and cadaveric appearance as opposed to a rejuvenated one

cadaveric, aged upper lid. The lids suffer from gravitational droop along with deflation and volume shifts. Modern facial and eyelid cosmetic surgery focuses on a three-dimensional appreciation of shape and has shifted away from tissue excision toward reinflation of tissues [4]. This more conservative approach allows for less soft tissue removal and is in accordance with fat preservation as is done in other areas of the face [5]. Volume should be maintained in the upper lateral lid to restore youthfulness [6].

The goal of an upper eyelid blepharoplasty is to restore aesthetically pleasing curves present in youth. An attractive upper lid is heralded by features of smooth skin, no redundant skin hooding, and no appreciable ptosis. The female lid should also have a fuller lateral sub brow area and a sculpted medial lid free of bulging fat herniation. Just as the face should exhibit an ogee curve of youth, so should the upper lid. This has not been assessed as critically in the upper lid. The ogee curve describes a convexity that gently transitions to a concavity. In the face an ogee refers to a rounder apple cheek that slopes to a concavity before reaching the jaw line. In the lid the ogee curve is also described as a sigmoid or “S”-shaped curve marked by a fuller, convex sub brow lateral upper lid that gently curves to a concave medial lid [7] (Fig. 21.3). Appreciation of the lid in three dimensions allows a perceptive surgeon to recreate a pleasing lid versus pure skin excision. An awareness of shadows and the integral play of light on eyelid contours give surgeons the ability to resculpt an old lid and transform it to a youthful one. Modern makeup artist recreates an attractive upper lid utilizing this concept of the sigmoid shape (Fig. 21.4). They use light colors over the lateral sub brow area to enhance this area to pop out while shadowing the medial lid to give the illusion of a curve and depth. In order to achieve this result, surgically all tissue layers must be addressed from the skin, muscle, and fat.



Fig. 21.3 A youthful upper lid topography has a sigmoid shape, which is a lateral convexity in the sub brow region that gently transitions to a medial concavity toward the nose. The sigmoid “S” shape is analogous to the ogee shape of a youthful face and is delineated by a black dotted line



Fig. 21.4 Makeup artist recreates the upper lid sigmoid shape by using a palate of colors to give the illusion of medial shadowing and lateral prominence to the upper lid-sub brow region

Preoperative Patient Assessment

A thorough health history is essential. Adverse reactions to past surgeries or anesthesia are particularly important to note. A list of medicines and allergies with particular focus on blood thinners is critical to prevent postoperative hemorrhage. An ever-growing list of new blood thinners has provided debate on the necessities of stopping blood thinners and for how long in preparation to surgery. Clearance and advice from the internist or cardiologist may provide

guidance on the safest approach to stopping these medications. If the septum is planned to be opened and fat manipulated, then stopping antiplatelet and anticoagulation medicine is recommended. If only the skin is to be excised in a functional case and the septum is left intact, then operating on a patient with blood thinners can be reasonable in most scenarios.

A tactile approach with palpation is important in assessing patient needs. The amount and quality of the excess skin should be recorded such as the difference between thin, crepe skin and doughy skin as they present different challenges. The pattern of hooding should be noted, as lateral hooding is easier to treat than medial webbing. The location and amount of fatty herniation should be documented, and retropulsion on the globe can help to further elucidate adipose characteristics. Downward lid excursion and mobility help to determine the degree of lid tightness and any potential restrictive components. The presence of abundant lateral fullness may be indicative of lacrimal gland ptosis or prominence, which may need to be addressed to prevent an unsightly lump postoperatively (Fig. 21.5). Large lacrimal glands may also be an indicator of disease, such as thyroid, sarcoid, or lymphoma. Importantly asymmetry should be recorded and the patient made aware of any differences between sides prior to surgery to avoid unhappy patients postoperatively.

The upper lid and brow are a continuum and should be addressed in this manner. Brow position and ptosis are essential in treating the upper lid. If brow ptosis or a sagging forehead is present, then a surgical brow lift or a chemical lift with botulinum neurotoxin can be discussed to enhance upper lid results. Eyelid ptosis should be recorded with



Fig. 21.5 While a modest lateral upper lid fullness of indicative of youth, an overly full lateral lid can be a sign of an enlarged lacrimal gland or systemic disease. This patient has thyroid eye disease with enlarged glands giving her unattractive lateral rubbery fullness to her upper lids. The assessment and treatment to address an unsightly lump in the lacrimal area are important in achieving a good surgical result. Tacking up a prolapsed gland should be considered if a lacrimal gland becomes ptotic with age. Gland resection should be avoided as it can lead to significant postoperative swelling and a dry eye

MRD1 measurements, lid crease position, as well as levator function. Preexisting ptosis should be corrected at the time of blepharoplasty to avoid a sleepy postoperative appearance. There are many options to perform ptosis surgery, but with a blepharoplasty and external approach, levator advancement gives good results without making an additional internal incision. Detection of dry eyes will prepare the patients and surgeon alike for the need for postoperative therapy with drops, ointment, or punctual plugs. A history of dry eyes, blepharitis, rheumatoid disease, or Sjögren's can give forewarning to the development of corneal dryness. A history of LASIK also should be an alert that corneal sensation can be diminished and the blink reflex compromised leading to dry eyes. Lid closure, any lagophthalmos, and Bell's phenomenon should be assessed preoperatively. The inability of the eyes to roll upward and backward on forced lid closure is a warning sign of a poor Bell's phenomenon and potential compromised eye protection and dryness after upper lid surgery.

Surgical Markings

The importance of accurate preoperative markings cannot be overemphasized. Numbing drops should be placed initially to prevent blinking and unwanted lid movement and avoid smudging of the marker. A fine felt tip marker is used for drawing a spindle-shape area of tissue to be excised. The first line should be horizontal and low along the natural lid crease. In non-Asian women, the line should be about 9–10 mm above the lid margin and in men 7–8 mm (Fig. 21.6). These lid crease markings are lower than usually described as the lid crease migrates cephalad over time. An old upper lid incision that is placed too far superiorly looks unsightly as aging progresses (Fig. 21.7). Patients can be marked in any position but they are most comfortable lying supine. In this scenario the incision should wing up laterally approximately 1 cm past the lateral canthus to address the lateral skin hood. When the patient sits up, this lateral wing should fall into a natural lateral lid crease.

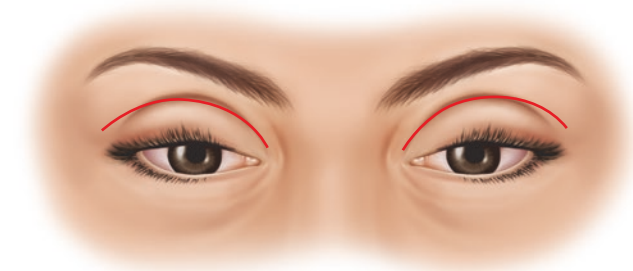


Fig. 21.6 Typical lid crease incision pattern. The crease should follow the patient's natural crease and be low, as the crease can migrate superiorly over time



Fig. 21.7 A revision upper lid blepharoplasty on a patient who had surgery 20 years prior. Note the old scar has elevated to an unnaturally high position. The new marking is well below this to restore a proper lid crease



Fig. 21.9 A final step in marking is to have a patient close their eyes gently and pull up on the brows to assess lid crease symmetry and plan skin ellipse excisional areas



Fig. 21.8 It is important to leave enough skin to allow good eyelid closure. Leaving approximately 18–20 mm between the lower brow hairs and the upper lid margin is typically sufficient. This can easily be measured out with a ruler prior to skin excision

The upper marks of the incision are obtained by pinching the redundant skin together with fingers or gently a fine non-toothed forceps. The upper lid margin and lashes should evert slightly, but care should be taken to avoid aggressive skin excision. When the upper mark is made, lines can be made medially and laterally connecting to the inferior mark. Enough skin must be left behind to for easy eyelid closure. A simple rule is to leave 18 mm to 2 cm of skin behind from below the brows to the lid margin, and this can be measured with a flexible ruler (Fig. 21.8). This should be sufficient tissue for upper lid closure. A final step in the marking is to have the patient close their eyes and pull up on the brows, allowing an inspection from above to judge crease heights and symmetry of tissue to be removed (Fig. 21.9).

After sedation, xylocaine 2% with epinephrine is injected by making a superficial tissue wheel and avoiding an intramuscular injection, which can cause bleeding. Injections should be performed slowly from the side, avoiding injections downward over the brow which can direct a needle toward to globe (Fig. 21.10). Usually a total of 3 ccs of local provides adequate anesthesia. After the patient is prepped and draped and prior to cutting, additional numbing drops and shields can be placed over the eyes and the amount of extra tissue to be excised rechecked with forceps. Shields provide protection from light, improves safety, and decreases anxiety should a patient be awake.

The Sigmoid Blepharoplasty Procedure

The sigmoid blepharoplasty is an advanced surgical technique to achieve maximal aesthetic upper lid youthful topography. Cutting the excess skin can be performed with a variety of instruments. The monopolar cautery set on pure cut with a fine needle tip provides fine scarring results similar to a blade but with more efficiency and hemostasis. Maintaining a dry field is helpful in this vascular-rich area. Only the skin is removed while leaving the underlying orbicularis muscle bed intact (Fig. 21.11). This muscle allows fullness to be retained to counteract the natural forces of deflation that occurs with age. Next an orbicectomy is performed medially by excising a strip of medial orbicularis muscle (Fig. 21.12). The effect is twofold. It allows a debulking of the medial lid to accentuate a concavity in this area as the muscle can contribute to unwanted fullness in this region. Similar concepts of selectively debulking orbicularis muscle



Fig. 21.10 Injecting local anesthesia should be performed with a small, 30 gauge needle creating a wheel of fluid under the skin and above the muscle. The injections should be done from the side and not

above to avoid downward injections toward the globe, which can increase unwanted globe penetration with the needle

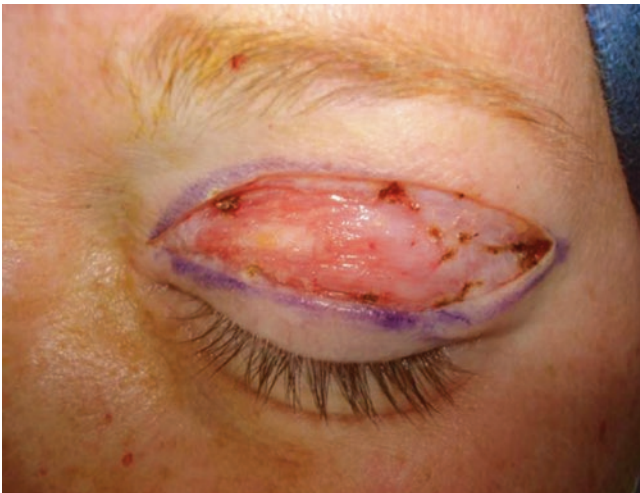


Fig. 21.11 In the sigmoid blepharoplasty, first only the skin is removed leaving orbicularis muscle intact. This maintains lateral fullness

have been described in lower lid blepharoplasty to address unsightly orbicularis muscle hypertrophy [8]. Removing muscle also allows for easy access to the orbital septum, which can be opened to expose the fat. Only the medial fat is removed, and if necessary, the central pad can be debulked if excessive fat is present. The medial fat pad can become more prominent with aging, giving an unwanted fullness to the medial upper lid [9]. The medial fat is distinct in its features as it is whiter in color and firmer in texture than the yellow softer pre-aponeurotic central pad. Removal of medial muscle and fat allows a more sculpted medial upper lid, without unwanted bulges or lumps. Fat is removed with a cutting cautery with meticulous hemostasis, without clamping as this may tear vessels and aggravate bleeding (Fig. 21.13). It is important to advise the anesthetist to turn down the oxygen

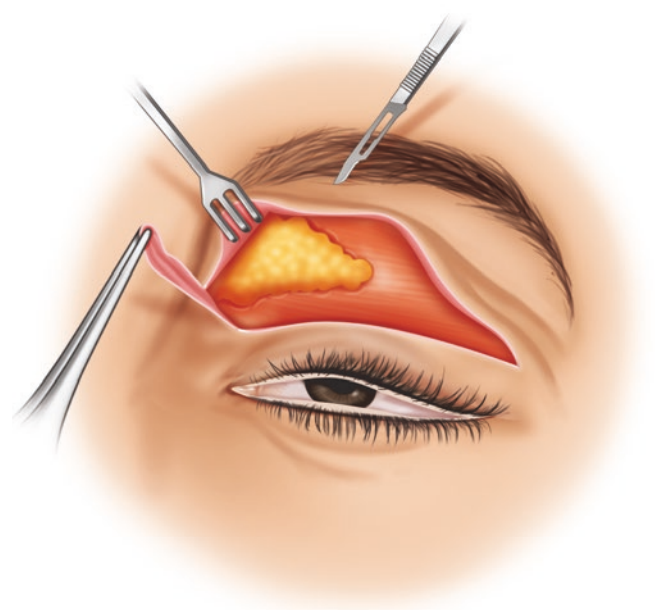


Fig. 21.12 Next a selective medial orbicectomy is performed to debulk unwanted fullness in the medial lid. This also provides good access to medial fat

to room air when using the cautery as the eyelid region poses a fire risk in the setting of high flow oxygen.

In order to establish upper lateral lid convexity, a 1 cm horizontal lateral orbiculotomy is created with a cutting monopolar device through the muscle to serve as a recipient bed for a fat graft (Fig. 21.14). The incision is placed in the vertical plane below the arch of the brow and serves to create both improved anterior lid projection and also brow support and lift. Medial upper lid fat is firm and has demonstrated a preponderance of progenitor stem cells



Fig. 21.13 Medial fat removal helps to achieve the desired gentle medial concavity. This is accomplished with a cutting cautery without clamping. Visualization and hemostasis of all bleeding vessels are important

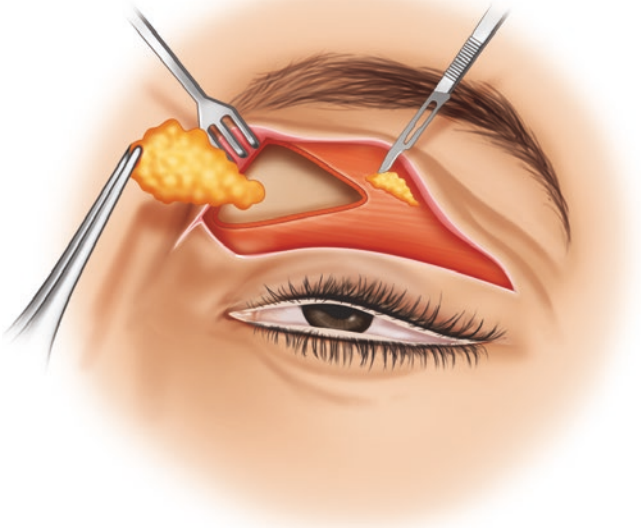


Fig. 21.14 A horizontal lateral orbiculotomy is performed below the brow arch as a recipient site for a fat graft

that serve as an excellent fat graft [10]. This free fat is placed into the orbiculotomy site of the lateral lid and is sutured below the muscle with a 6-0 plain suture (Fig. 21.15). The combination of this fat and the rich, encircling muscular blood supply creates a favorable environment for excellent fat graft take. The end result is a plump, augmented area of fullness in the lateral lid that creates tight skin and a convex contour.

The blepharoplasty wound is closed with a 7-0 monofilament running suture placed only in the skin edges, which is removed in 1 week (Fig. 21.16). The end result of the sigmoid blepharoplasty is the re-establishment of

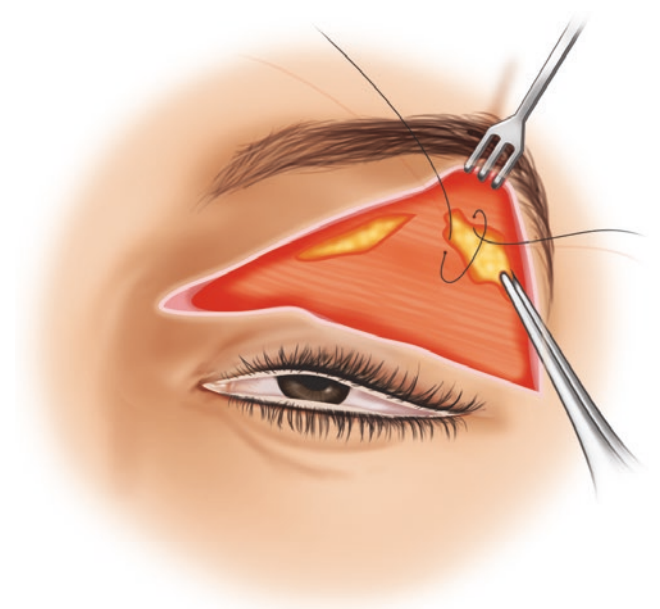


Fig. 21.15 The firm, white fat graft is taken from the medial lid where it has a robust supply of stem cells. It is placed into the orbiculotomy site laterally to achieve the desired lateral brow fullness and to support and raise the brow arch from below. The fat is sutured with 6-0 plain suture below the muscle pocket, and the fat take is excellent due to the robust blood supply in the muscle



Fig. 21.16 The upper lid wound is closed with a running non-dissolving, monofilament 7-0 suture that is removed in 1 week. The suture is not tight, allowing the wound edges to “kiss” without tension. This promotes fine scar healing and avoids unwanted suture bumps

youthful lid contours with a full, convex lateral lid without hooding that gently slopes into a medial sculpted concavity. A bright-eyed appearance is achieved, as well as a platform to apply makeup in a youthful appearance. The brow support provided by the lateral lid fat graft prevents tissue descent and establishes a natural open lateral canthus look (Fig. 21.17a, b). Postoperative care involves ophthalmic

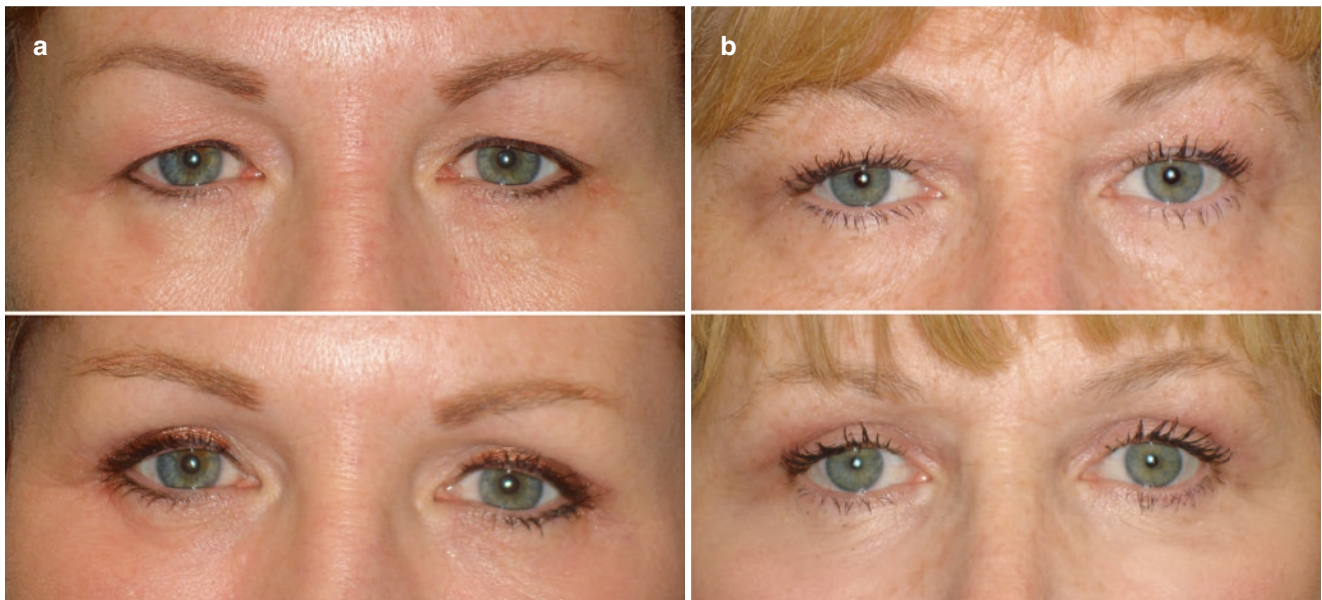


Fig. 21.17 (a) Result of a sigmoid blepharoplasty pre- and postoperatively. This patient had signs of aging lids, with characteristic medial fullness and lateral lid deflation and droop. The youthful sigmoid curve is restored postoperatively. Upper and lower lid blepharoplasty was performed. (b) Another

result of a sigmoid blepharoplasty pre- and postoperatively. This patient had signs of aging lids, with characteristic medial fullness and lateral lid deflation and droop. The youthful sigmoid curve is restored postoperatively. Upper and lower lid blepharoplasty was performed

ointment twice a day for 2 weeks and cold packs to the eyes for the first 48 hours to reduce bruising.

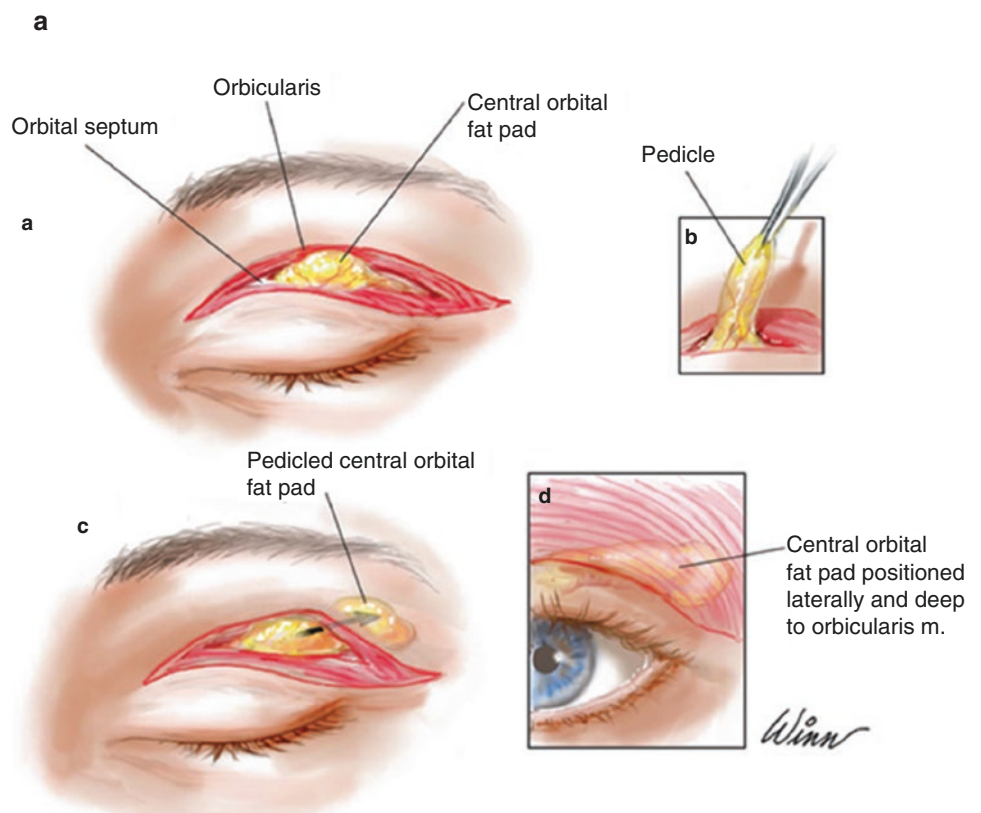
Alternative Options for Upper Lid Blepharoplasty

There are many schools of thought on what an attractive upper lid should look like. Some of the discrepancy is based on cultural, geographical, or environmental influences. Certainly while the sigmoid approach provides a brighter-eyed, more youthful appearance, other options exist. Skin excision alone with keeping all muscle and fat intact has been described as a method to maintain lid fullness [11]. While this may provide good results in selected cases, fullness in and of itself is not the true goal. Youthful curves should be the priority of the blepharoplasty surgeon, with fullness selected for appropriate areas. Others describe using fat pedicle flaps to transpose from medial to lateral to reduce medial fullness and create lateral convexity [12]. The fat pedicle has an excellent take with an intact blood supply and is placed under the lateral orbicularis muscle's rich blood supply (Fig. 21.18a, b). The pre-aponeurotic fat is soft and may not be in sufficient quantity to give an abundant lateral fill however. Lastly transposing medial fat into the glabella area has been described to reduce medial fullness but also to lift deflated tissues between the medial brows in selected cases [13] (Fig. 21.19a, b).

Lateral Orbiculotomy

The orbicularis oculi is the most potent lateral brow depressor. Reducing some of its downward pull allows the frontalis muscle to lift more effectively. The orbicularis muscle acts like a rubber band encircling the eye. Incising the muscle full thickness (orbiculotomy) is analogous to cutting the constricting forces of a rubber band (Fig. 21.20a, b). The result is not only a smoothing of upper crow's feet wrinkles but a subtle lateral brow lift as would be seen with botulinum neuromodulator injection. The procedure is performed when the lateral brow is ptotic and deflated. As always the initial step of the blepharoplasty involves retaining lateral orbicularis muscle. The muscle is then incised with a monopolar cautery on a 45° angle, splitting the muscle and exposing the retro-orbicularis fat (Fig. 21.21). The muscle will splay, exposing the deep fat. Fat grafts from the medial lid can be placed into this area to maintain an elegant fullness and counteract the deflation forces of aging. It is important to understand that the fat pads around the orbital rims not only descend but also atrophy with time contributing to a sinking of the lateral brows over the lids. Importantly the fat grafts also act as a spacer graft separating and weakening this cut muscle and preventing reattachment (Fig. 21.22). The muscle is not sutured over the grafts in this scenario as the goal is to keep the muscle separated with diminished function. The fat provides increased lift from below and acts as a pillar of support (Fig. 21.23). The fat graft also adds youthful anterior projection to the sub brow region. This lateral sub brow

Fig. 21.18 (a) Sozer's upper blepharoplasty technique demonstrating a sliding lateral fat pedicle placed under the muscle from medial to lateral to achieve fullness. (b) Pre- and postoperative result of this surgery



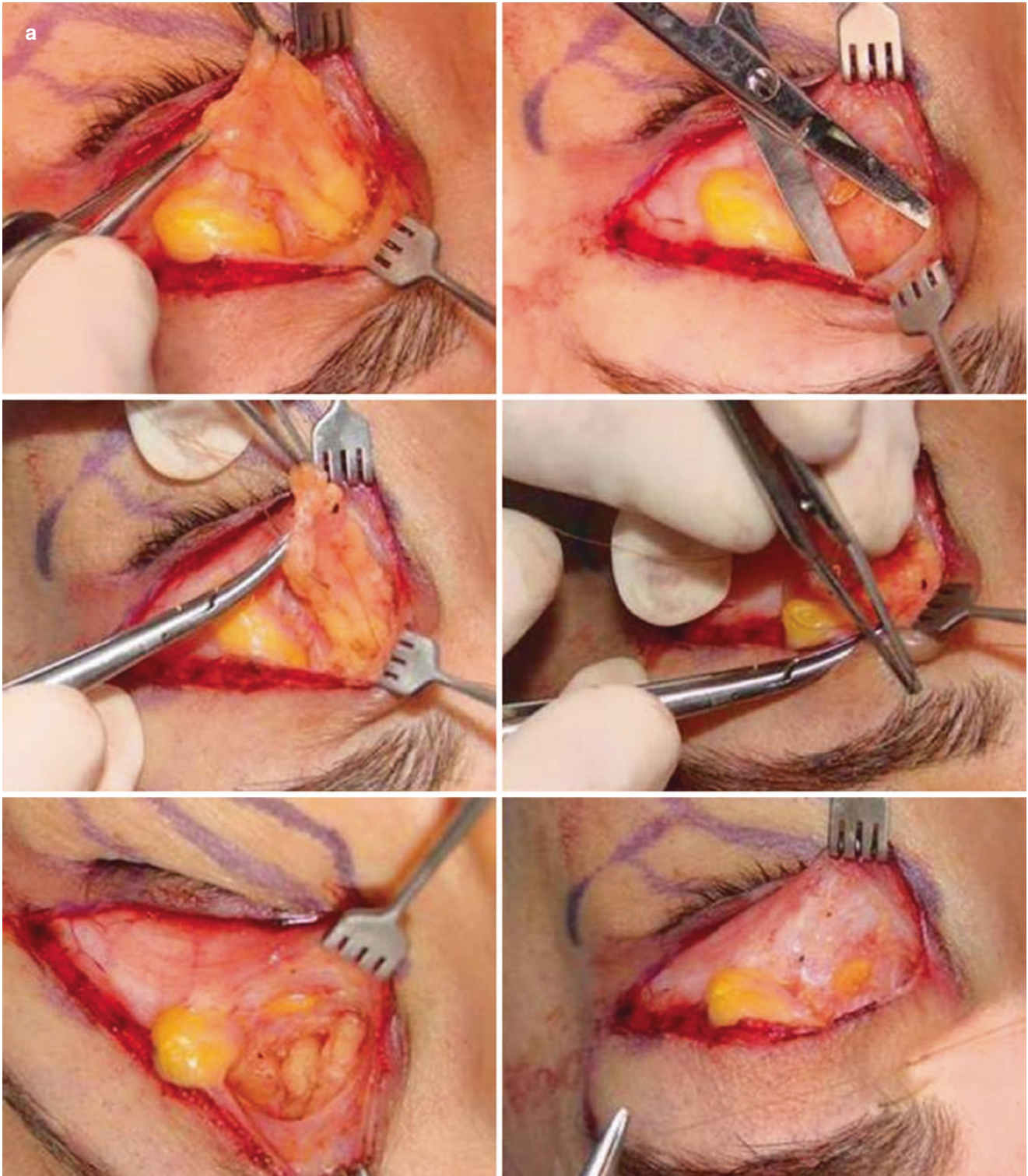


Fig. 21.19 (a) Massry's sliding medial fat pedicle to fill a deficient glabella region. (b) Pre- and postoperative results



Fig. 21.19 (continued)



Fig. 21.20 (a) The orbicularis oculi muscle is like a rubber band encircling the eye. It is a powerful lateral brow depressor and creator of crow's feet wrinkles. (b) Releasing the muscle is analogous to severing

the rubber band. The effect is to weaken the lateral brow depressor and allow the lateral brow to lift more unabated (upward arrow). It also helps in softening the upper laugh lines

fullness restores an upper face ogee curve, which is the convexity of the brow transitioning to a concavity of the lateral canthus best seen on a three quarter view (Fig. 21.24).

Other Advanced Muscle Modifications in Upper Lid Blepharoplasty

In cases of extreme lid asymmetry, where one eye is smaller and heavier with a lower brow, knowledge of facial muscle function can be helpful. Understanding the agonist/antagonist relationship of facial muscles can be helpful in achieving balance to the lids. While the orbicularis, corrugators, and procerus pull the brows down to close the eyes, the frontalis elevates the brows to open the eyes. Using this knowledge, orbicularis muscle can be removed on the smaller, heavier

eye to decrease lid volume and lid depression while allowing the frontalis less effort in raising the brow on that side [14]. This maneuver improves eyelid contour and provides some added lift to a fuller side. This is analogous to treatment with neurotoxins, where depressor muscles are targeted to weaken to allow the elevators to lift unabated.

Debate has also surrounded the best method for eyelid closure. Certainly the finest suture ranging from a 6-0 to 7-0 size will yield the best results. Typically monofilament, non-dissolving sutures are the least reactive and result in the finest scars. Some advocate dissolving plain suture for convenience as these do not have to be removed, but retained suture can result in irregularities such as suture bumps. Closure in the subcutaneous plain with a Prolene suture is attractive and easy to remove by clipping and pulling the sutures ends but can have a tendency to cause a whiter medial

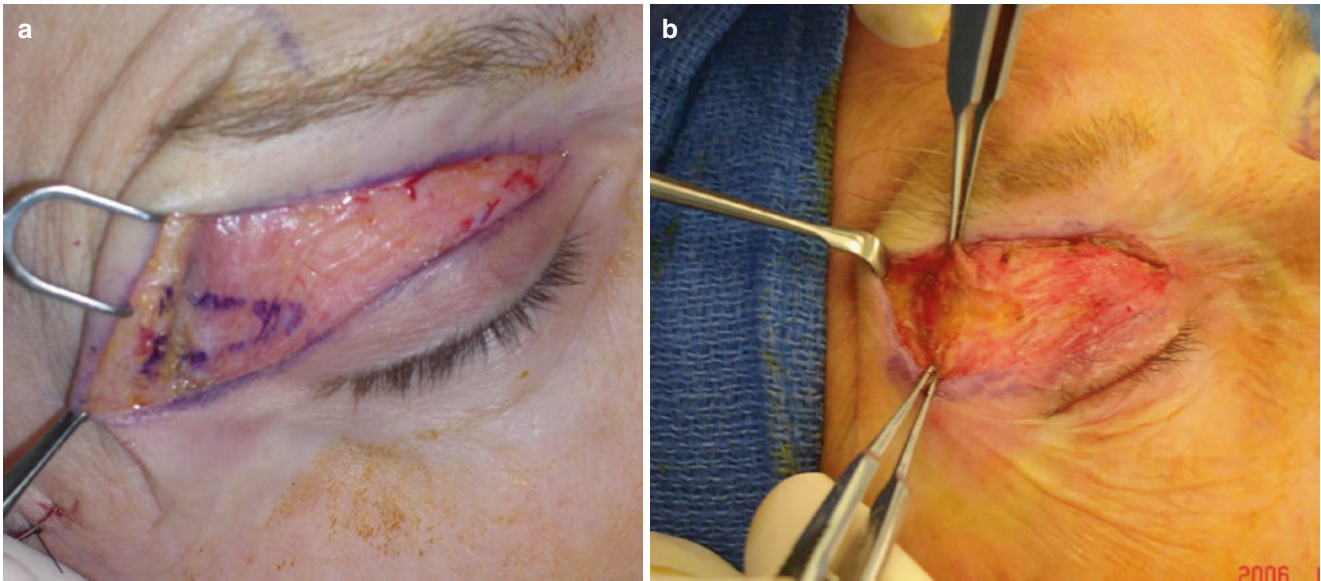


Fig. 21.21 (a) The right upper lid orbicularis muscle is marked at a 45° angle in the preparation for muscle incision. The blue marks outline the expected amount of muscle separation after severing the muscle full thickness. (b) A lateral orbiculotomy is initiated by incising the muscle

full thickness exposing the underlying deep brow fat pad. This ensures effective lateral muscle release. The orbicularis is a tight sphincter muscle and will splay after incising, so no muscle has to be removed



Fig. 21.22 Fat from the medial lid is placed into to the area between the split muscle to add back volume and act as a spacer graft so the muscle will not reattach. The muscle is not sutured over the fat as is done in a sigmoid procedure, because the intention is to weaken the muscle and suturing it back together would restrengthen the muscle

scar. Interrupted sutures are accurate but can be time-consuming and result in more suture cysts. The running suture is fast, effective, and predictable in most hands.

The creation of a lid crease during closure has not received as much attention as in the past [15]. Formation of a crisp

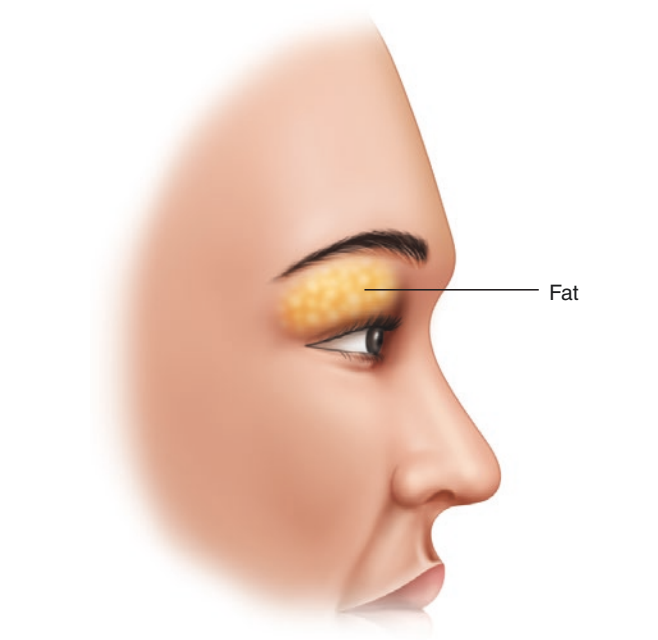


Fig. 21.23 The fat graft also adds volume to the lateral sub brow area and provides lateral brow lift and support. The lateral orbiculotomy procedure with fat grafting creates a youthful and arched lateral brow. The fat graft also improves anterior brow projection and counteracts the effects of deflation and sinking that can be problematic on the lateral brow

upper lid crease can be appealing for those individuals that desire a more defined crease or to address asymmetry. In reality most individuals do not have sharp or deep upper lid creases, but a softer line instead. In order to recreate a defined



Fig. 21.24 A youthful face is actually a double ogee with the superior convexity at the lateral brow descending into the more concave lateral orbit. The classic ogee of the face is lower and describes the relationship between a convex midface and a concave submalar area. A three quarter view demonstrates restoration of the upper ogee using the lateral orbiculotomy technique

crease closure of the wound, it should involve a suture bite of the upper skin and orbicularis muscle, followed by a bite of levator aponeurosis and finalized by a bite of the lower orbicularis and skin. Care should be taken to avoid purchase of the orbital septum as this may cause unwanted tether and lagophthalmos. In this author's opinion, rarely is this type of closure needed, and most patients benefit by closing skin to skin. Creating a crease contradicts general surgical principles of wound closure which involve good wound eversion under minimal tension to achieve maximal scar camouflage. Usually forming symmetrical lid creases starts with well-designed matching crease incision lines. In cases of asymmetry, eyelid ptosis is often the culprit of a higher crease, and ptosis should be corrected at the time of blepharoplasty. Despite the preferred method of closure, the wounds should "kiss" and approximate without tension as swelling will cause delayed wound tension.

Corrugator Removal Through the Upper Lid Approach

The glabella and brow region are contiguous with the upper lids and should be assessed when looking at the upper lids. The "11" lines of the glabella are a result of the persistent



Fig. 21.25 The upper eyelid incision provides close and easy access to the glabella muscles. A dissection plane upward toward to superior orbital rim between the orbicularis muscle and the septum leads to the corrugator muscle. Once identified, the corrugators can be grasped with a forceps and a section of the muscle belly removed with cautery

horizontal movements of the corrugators muscles. These muscles can be weakened with injectable neuromodulators or surgery. The transblepharoplasty approach to the corrugators is a convenient access to modify these depressor muscles [16, 17]. Access through the upper lids is a much shorter distance than from the scalp approach in a brow lift. During an upper lid blepharoplasty, the monopolar cautery can be used to create a dissection plane below the medial orbicularis oculi muscle and above the septum. Small rakes can help to provide excellent exposure by pulling the skin/orbicularis muscle flap upward over the superior orbital rim. The deep, finger-like corrugator muscles can be identified and divided. Grasping the corrugator muscle with a heavy forceps and delivering it downward into view help to isolate the muscle (Fig. 21.25). Due to the glabella's rich blood supply, it is helpful to first cauterize on either side of the muscle belly with a bipolar cautery before severing the muscle full thickness with a monopolar cutting cautery. The medial head is strongly attached to the frontal bone, and elevation with a periosteal elevator is helpful. An elevator can be passed from one upper lid incision exiting the other side to ensure full release of the muscles (Fig. 21.26).

Removing a section of muscle is more effective than simply cutting it. Aggressive extirpation should be avoided as this can cause unwanted tissue indentation and medial spaying of the brows. One disadvantage of the transblepharoplasty approach is the lateral corrugators are difficult to



Fig. 21.26 The medial head of the corrugators are extremely adherent to the frontal bone. A periosteal elevator helps to achieve full medial release. The elevator can be passed from one eyelid incision and exit the other, ensuring full flap elevation

remove as the supraorbital neurovascular bundle blocks full exposure, so some lateral muscle function will remain. It is important preoperatively to mark and know the two neurovascular bundles that exit the superior orbit and innervate the forehead. The supra-trochlear neurovascular bundle is 1.6 mm lateral to the midline, and the supraorbital bundle is 2.6 mm lateral to the midline and can be palpated as a notch in the superomedial orbit. This will help to avoid damage to these delicate structures. Muscle removal can also cause a tissue void that may benefit from fat grafts placed from the upper lid incision (Fig. 21.27). Again the grafts act to add back lost volume but also function as a spacer graft to prevent corrugator reattachment.

Conclusions

Concepts of eyelid beauty are evolving. Regardless, the goal of upper lid blepharoplasty is to recreate a youthful appearance. This involves an appreciation of aesthetically appealing curves and a restoration of the sigmoid or ogee curve. The sigmoid shape refers to a medial concavity achieved by muscle and fat sculpting and a convex lateral lid formed by retaining muscle and adding fat grafts. The result is recreating a youthful upper lid ogee that transitions from a medial concavity to a lateral convexity. This approach addresses the two most common complaints of traditional upper blepharoplasty: residual nasal fullness and excess lateral hooding. The crux of upper blepharoplasty



Fig. 21.27 Fat grafts can be placed from the blepharoplasty incisions below to fill any void created from glabella muscle removal and to act as a spacer graft to prevent corrugator reattachment

is retaining volume and appreciating the value of utilizing fat as a tool to augment results. An understanding of the eyelid muscles and their function can allow for finesse in fine-tuning asymmetry. Whatever approach is utilized, moderation and an appreciation of aesthetic contours should guide surgical judgment. Most importantly as in most surgeries, preoperative planning and precise markings are the key to achieving an excellent result.

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