Small Incision External Levator Repair

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Mark J. Lucarelli

External levator repair is a time-honored method of correcting ptosis. Such surgery is performed frequently by specialists who perform significant amounts of eyelid surgery. Achieving predictable, aesthetically appealing results can sometimes, however, be challenging. Hence, alternatives such as the conjunctival mullerectomy have found an important place in the surgical eyelid armamentarium. This chapter provides a number of guidelines that have been helpful to me in achieving more consistent results with an external levator repair utilizing a smaller incision and limited dissection (Fig. 187.1).

1. As with other procedures, proper patient selection is key. In order to achieve excellent results, this operation must be restricted to patients with *minimal dermatochalasis*. The best candidates are patients with dermatochalasis ratings of 0–1+ on a scale of 0–4+.
2. If the patient's ptosis is unilateral, a phenylephrine test is helpful. This is done by placing a drop of 2.5 % phenylephrine on the ocular surface of the ptotic side Q 5 min ×2. The phenylephrine test will help determine if the patient is a good candidate for internal ptosis repair (conjunctival mullerectomy). It will also help reveal asymmetric, subclinical ptosis on the supposedly normal side (Hering's effect).
3. The upper eyelid position (margin reflex distances) should always be evaluated with the brow relaxed. Significant brow recruitment can dramatically alter the true position of the upper eyelid margin.
4. This procedure can be readily performed in the office under local anesthetic or using monitored anesthesia care. If intravenous sedation is used, propofol is an excellent agent, as its effects wear off nearly completely in 10 min.
5. Although our previously published description of this procedure recommended an 8-mm incision, I have found that a slightly larger incision of approximately 12 mm that extends from the medial limbus to the lateral limbus allows the procedure to remain minimally invasive yet affords considerably better surgical exposure. These markings are always placed before the patient is sedated so that the ideal horizontal position of the incision can be marked without concern for any deviation of the ocular position owing to sedation. In women, the relevant segment of the lid crease is typically marked at 9- or 10-mm superior to the lash line. In men, the position is often marked slightly lower at 7–8 mm. In Asian patients, lower lid positions are indicated.
6. Local anesthetic is infiltrated superficially into the lid at the site of the lid crease marking. Two percent lidocaine with 1:100,000 units of epinephrine mixed in equal parts with

M.J. Lucarelli, MD, FACS
Department of Oculoplastic,
Facial Cosmetic, and Orbital Surgery,
University of Wisconsin-Madison,
Madison, WI, USA
e-mail: mlucarel@wisc.edu

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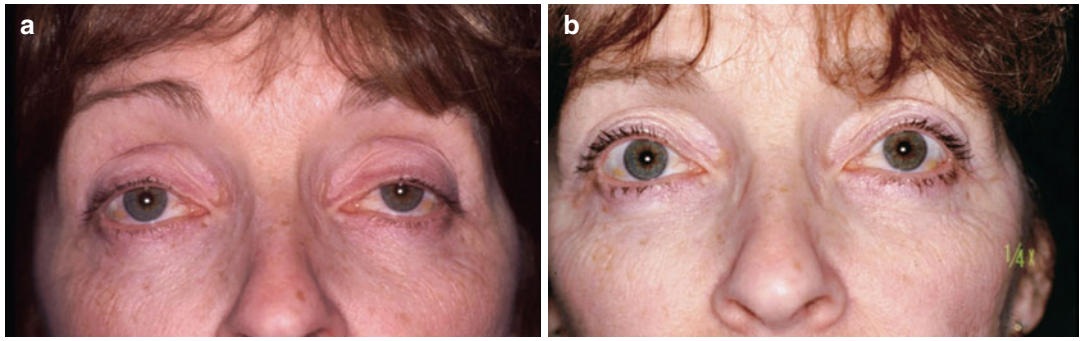

Fig. 187.1 (**a**) Preoperative and (**b**) postoperative appearance of patient who underwent bilateral small incision external levator repair. Note improvement of the superior sulcus defect

0.5 % bupivacaine with epinephrine is a reliable combination and aids with hemostasis. Typically, 0.6 ml of this local is used per lid.

7. After incision of the skin, gentle retraction inferiorly by an assistant is often helpful during dissection to identify the levator aponeurosis. A microdissection needle on an electrosurgical monopolar unit is my preferred means of dissection. Other surgeons favor the Ellman radiofrequency surgical unit. Gentle blunt dissection with a cotton tipped applicator is also sometimes helpful in identifying the levator aponeurosis.
8. The preaponeurotic fat pad and the musculoaponeurotic junction should be identified. No dissection on the underside of the levator aponeurosis is necessary.
9. The anterior superior surface of the tarsus is exposed in a standard fashion. Dissection on the tarsus is limited to the central portion overlying the cornea. This degree of dissection allows for two levator-tarsus sutures to be placed without any difficulty.
10. A 6-0 Prolene suture is passed in a horizontal mattress fashion, first through the levator complex at the level of the musculoaponeurotic junction and then partial thickness through the superior third of the tarsus and finally back through the levator complex at the level of the musculoaponeurotic junction. Restricting the tarsal bites to the superior third of the tarsus minimizes the likelihood of contour abnormalities. The suture is temporarily tied.
11. The patient is placed in a seated position. Eyelid height and contour are then carefully inspected in primary gaze, upgaze, and downgaze. The Prolene suture is then adjusted as needed. If desired, an additional medial or lateral suture may easily be placed.
12. The Prolene sutures are tied permanently. Eyelid crease reformation is not recommended in this procedure. The orbicularis is reapproximated with one or two buried interacted sutures of 7-0 Vicryl. The skin is usually then closed with a running fashion using 6-0 fast-absorbing plain gut suture.
13. The patient is seen 7–10 days postoperatively. Although rarely necessary, adjustment of the operated eyelid can easily be performed in the office in the 10-day period following the first postoperative week.

Suggested Reading

Lucarelli MJ, Lemke BN. Small incision external levator repair: technique and early results. Am J Ophthalmol. 1999;127:637–44.