The Blepharoplasty Rotational Flap
Gary S. Weinstein, MD, FACS

ABSTRACT
Patients with large benign upper eyelid lesions and dermatochalasis are optimally treated with excision of their lesions and a blepharoplasty. I have devised a myocutaneous flap to reconstruct defects created by excising upper eyelid lesions peripheral to the blepharoplasty incision lines. The flap is created from skin and muscle that would normally be excised during the blepharoplasty. This technique results in a well-defined upper eyelid crease, without eyelid retraction or epicanthal fold formation.

Patients with large benign upper eyelid lesions and significant dermatochalasis (Fig 1) obtain the best cosmetic result from excision of the lesions and a blepharoplasty. Lesions between the upper and lower blepharoplasty incision lines are easily removed during the blepharoplasty. Excising a lesion that extends beyond the blepharoplasty incision lines creates a large defect. Enlarging the blepharoplasty incision to include the defect may cause distortion of the eyelid crease, lagophthalmos, or epicanthal fold formation. These complications are prevented if the defect is repaired with a full-thickness skin graft or a myocutaneous flap. I have developed a myocutaneous flap that uses skin and muscle normally excised during the blepharoplasty to repair the defect.

SURGICAL TECHNIQUE
The skin lesions and blepharoplasty incision lines are outlined with a surgical marker (Fig 2). A myocutaneous rotational flap, which is a 1- to 2-millimeter enlarged inverted image of the part of the lesion peripheral to the blepharoplasty, is drawn between the incision lines. An adequate vascular pedicle is preserved to nourish the flap. After injection with a local anesthetic, the outlined tissue is excised except for the rotational flap and its pedicle (Fig 3). The flap is separated from the orbital septum with a Wescott scissors and rotated into the defect above the blepharoplasty incision line (Fig 4). The flap and blepharoplasty incisions are closed with 6-0 plain or nylon sutures (Fig 5). Antibiotic ointment and ice compresses are applied to the wounds. Nonabsorbable sutures are removed on the sixth postoperative day.

CASE REPORT
A 57-year-old man had bilateral xanthelasma and upper eyelid dermatochalasis (Fig 1). At the time of blepharoplasty, the xanthomas were excised and the defects outside the blepharoplasty incision lines were repaired with rotational myocutaneous flaps (Figs 2-5). At 1-year follow up, the patient had well-healed incision lines, with slight depigmentation of the left flap (Fig 6). There was no eyelid crease distortion, lagophthalmos, or epicanthal fold formation.

DISCUSSION
Patients with large benign upper eyelid lesions and dermatochalasis may wish to have both problems treated concurrently. If the lesion is peripheral to the blepharoplasty incision lines, enlarging the blepharoplasty incision to include the defect created by excising the lesion may cause lid crease distortion, lagophthalmos, or epicanthal fold formation. These complications are prevented by repairing the defect with a full-thickness skin graft or a myocutaneous flap.

From the Department of Ophthalmology, Eye and Ear Pavilion and the University of Pittsburgh School of Medicine, Pittsburgh, Pa.


Reprint requests should be addressed to Gary S. Weinstein, MD, FACS, Investment Building, Suite 1014, 239 Fourth Ave, Pittsburgh, PA 15222.
FIGURE 1: This 57-year-old man has bilateral dermatochalasis and xanthelasma.

FIGURE 2: The blepharoplasty incisions and xanthomas are outlined with a surgical marker. Medially, the xanthomas extend beyond the blepharoplasty incision lines (arrowhead). A rotational myocutaneous flap is drawn on the skin to be excised during the blepharoplasty (arrow). The flap is a slightly enlarged inverted image of the part of the xanthoma outside the blepharoplasty incision line.

FIGURE 3: The outlined skin and muscle have been excised, except for the rotational myocutaneous flap (large arrow). A vascular pedicle (small arrow) is preserved.

FIGURE 4: The flap (arrow) is rotated into the defect above the blepharoplasty incision line.

FIGURE 5: The blepharoplasty and myocutaneous flap (arrow) incision lines are sutured with 6-0 nylon.

FIGURE 6: The incision lines are well healed 6 months postoperatively. The left flap is slightly depigmented.
A full-thickness skin graft harvested from tissue removed during the blepharoplasty provides a good match, although the graft site may be depressed if the defect extends to the orbital septum. Eyelid retraction may occur from contraction or necrosis of the graft. Lid crease distortion results if the levator aponeurosis places traction on the inferior edge of the graft. Skin grafting is time-consuming, and an occlusive dressing may be needed to compress the graft against its underlying blood supply.

Repairing the defect with a myocutaneous flap offers several advantages over skin grafting. The thicker flap more closely matches the surrounding tissue and is less likely to contract. The vascular pedicle decreases the risk of flap necrosis. Eyelid crease distortion and wound dehiscence are less likely, because the more stable flap resists traction of the levator aponeurosis on its inferior edge. The technique is quick and no postoperative occlusive dressing is required.

Meltzer described a pedicle myocutaneous flap to repair defects created by excising medial lesions in the upper eyelid. The technique did not combine repair of the surgical defect with a blepharoplasty or camouflage the scar with the eyelid crease.

I developed a myocutaneous rotational flap from skin and muscle that would normally be excised during a blepharoplasty to repair the defect created by excising a large benign lesion adjacent to the blepharoplasty incision line. Closure of the blepharoplasty incision creates a cosmetically pleasing eyelid crease. The flap fills the residual defect with minimal tension, reducing the risks of lid crease distortion, lagophthalmos, and epicanthal fold formation. The blepharoplasty rotational flap combines successful blepharoplasty with the excision and repair of large contiguous upper eyelid lesions.

REFERENCES