Panel Discussion

Secondary Lower-eye-lid Surgery

Editor’s note: My thanks to the moderator, David W. Furnas, MD (board-certified plastic surgeon and ASAPS member, Orange, CA), and to panelists Nicholas Taylor Iliff, MD (board-certified ophthalmologist, Baltimore, MD); David M. Metzner, MD (board-certified plastic surgeon and ASAPS member, Metairie, LA); and Francis G. Wolfort, MD (board-certified plastic surgeon and ASAPS member, Boston, MA) for sharing their opinions and clinical experience.

Dr. Furnas: The first patient is a 60-year-old woman who had a bilateral upper and lower blepharoplasty 20 years ago (Figure 1). Postoperatively, the left lower lid was too low and she went back to the same surgeon who operated on the right side.

Now she is complaining of tearing and irritation in both eyes. Of particular concern to her is that her mascara runs. She complains of having to keep her head down to hide this when she is photographed. Dr. Metzner, how would you analyze this problem?

Dr. Metzner: Her eyes are irritated and tearing because they are drying; it is just evaporation. She is getting reflex tears produced by the lacrimal gland. I see lower-lid retraction and scleral show. She has a desirable upward slant from the medial to the lateral canthus. She has skeletonization of both lower orbital rims. May I assume she has also had a face lift?

Dr. Furnas: Yes, several.

Dr. Metzner: She seems to have upper-eye-lid ptosis, worse on the right than the left, and a high supratarsal fold, which I know is not our subject. But it may be that, for overall aesthetics, if you are successful in getting the lower lids up, you may also want to correct the ptosis so that the palpebral fissure is not too narrow. I hope that she has not had a midface lift because I think that a midface lift might be the best way to deliver, by mobilization, more soft tissue to the lower eyelids, take the weight off of them, and allow them to come up. You would obviously have to support them with firm long-term fixation, anchoring to the temporal fascia in the lateral face. I prefer anchoring the deep cheek soft tissue to the temporal fascia as part of an endoscopic forehead lift.

Dr. Furnas: Where would you make the incisions and dissect the plane?

Dr. Metzner: I would make a subciliary incision, elevate skin off all the pretarsal orbicularis and much of the preseptal orbicularis oculi muscle, and then dissect beneath the muscle to the orbital rim. I do my midface lift in a supraperiosteal plane. I would dissect inferior to the malar bone. I would finish with a digital separation into the upper gingival sulcus, and that would mobilize all the soft tissue of the cheek. I would then anchor with a deep Panacryl suture (Ethicon Inc., Somerville, NJ) and secure that to the temporalis fascia.

Dr. Furnas: So you would be doing superficial-temporal fascia and subcutaneous-to-deep temporal fascia?

Dr. Metzner: I would be sutureing the deep soft tissue of the cheek to the superficial layer of the deep temporal fascia or temporal fascia proper (either term is acceptable). Then I would develop an orbicularis oculi muscle flap of...
Dr. Wolfort: I think that she has the symptoms you described because of the ectropion. I would do a component separation of the lower lid. I think the problem is in her posterior lamella; it is probably contracted, and the lower-lid skin is vertically shortened. Her upper lid still has some excess skin that could be used for a laterally based skin-muscle flap that could be brought down into the lower lid to release the vertical lower-lid shortening and correct the ectropion. It is a tedious operation, but I believe component separation of lamellae and skin muscle flap to lower lid would be effective.

Dr. Iliff: While she may have mid-lamella fibrosis, the photograph suggests inadequate lower-lid skin. A midface lift or orbicularis sling may be helpful; however, a skin graft has to be kept in mind as an effective and reliable alternative.

Dr. Furnas: The next patient is a 56-year-old woman with a previous blepharoplasty (Figure 2). The right lid sags. Although there was no exposed cartilage, 2 auricular cartilage grafts had been placed to support the lower lids. We do not have a lateral view or exophthalmometry, but you can see the differences in the globe prominence. She had recent cataract extractions and she was referred by an ophthalmologist because she was complaining of tearing discomfort. She has the same symptoms as the previous patient.

Dr. Wolfort: I do not know how much support the auricular cartilage
provides. She still has ectropion, and I think the capsulopalpebral fascia is contracted. That was one of the reasons a cartilage graft was used for support. But it is not too effective. If you place some fat between the fascia and the periorbital contents, that might make the patient more comfortable. But it does look like the auricular cartilages are irritating her. Perhaps they could be trimmed. Although my experience with auricular cartilage is limited, I have trimmed some and noted relief of similar irritating cartilages in the lids. Auricular cartilage grafts are prone to warp and deform in eyelids as they do in nasal surgery. She does not appear to have thyroid disease.

**Dr. Iliff:** I do not think her symptoms are related to her cartilage. Historically, cartilage has been popular, at least among the oculoplastic practitioners, for elevating lower lids in patients with thyroid disease. It works reasonably well from the point of view of pushing the lids up. It does not work particularly well from an aesthetic point of view because it is hard to keep it flat, and it is hard to keep it from changing. Auricular cartilage has been more popular because ophthalmologists felt more comfortable harvesting it than nasal septal cartilage, but nasal septal cartilage would certainly also work well.

I have used auricular cartilage for this purpose dozens of times, but I have never seen irritation from the cartilage as shown in this patient’s photographs. This diffuse irritation would not be seen with a lower-lid implant problem. The irritation would be more localized inferiorly. We are somewhat handicapped without microscopic evaluation.

**Dr. Furnas:** Are you speaking of her cornea now?

**Dr. Iliff:** Yes, her cornea and the inferior aspect of the globe.

**Figure 2.** After this 56-year-old woman had a blepharoplasty, her right lid sagged. An auricular cartilage graft had been placed in a subconjunctival position, and then further support was sought with a second auricular graft. The patient complains of tearing, burning, and irritation of both eyelids (more on the right), which she attributes to the cartilage grafts.

Auricular cartilage grafts are prone to warp and deform in eyelids as they do in nasal surgery.

—Francis G. Wolfort, MD
Dr. Furnas: She has had corneal abrasions in the past. It is not something that was obvious to me. That is one of the reasons her ophthalmologist referred her to someone who specializes in retinal and cataract disease. I should also mention that she was sent for a thyroid workup, which was negative.

Dr. Iliff: There is a multitude of things that can cause itchy, burning, teary eyes, for example, conjunctivitis, dry eyes, or blepharitis. I do not feel that her problems are related to the cartilage.

Dr. Furnas: Of interest is that she did have a retinal detachment on the opposite (left) side.

Dr. Iliff: The technique that is used for retinal detachment repair would make the eye smaller. So the difference in globe prominence may well be related to that. Since you have brought up thyroid disease, 20% of patients who present with the eye findings of Graves have normal thyroid function studies. Of those, slightly more than half will develop abnormal thyroid function studies within 18 months. I feel that the most accurate evaluation, if you suspect thyroid disease, is ultrasound of the orbit with measurement of the extraocular muscles. We have well-established norms for extraocular muscle size. And there are certain muscle characteristics that are indicative of thyroid disease. In this case, the patient does not have that sub-brow fullness that you see with thyroid disease. Although it is possible she has thyroid disease, which incidentally can cause all the symptoms that she is having, such as burning and watery, congested eyes, I think it is unlikely. She might have idiopathic lagophthalmos or poor blink.

Dr. Furnas: Is this automatic blink or reflective blink?

Dr. Iliff: It is an automatic blink. If you watch, a person should blink between 10 and 15 times a minute. Just sit and watch a patient while they

Figure 3. This 59-year-old man had a bilateral lower blepharoplasty about 6 months previous to these photographs. He cannot completely close his right eye and has symptoms of irritation and tearing in both eyes.

If the patient has a poor blink, there is nothing that can be done about it, and he or she is more likely to have problems after blepharoplasty.

—Nicholas Taylor Iliff, MD
talk to you. Do not get the patient to fix on something. Many patients will blink about once every 30 seconds or once a minute. It is good to keep this in mind when you evaluate someone before blepharoplasty. If the patient has a poor blink, there is nothing that can be done about it, and he or she is more likely to have problems after blepharoplasty. So this is another thing to look for, in addition to the ability of the lids to achieve closure.

I think this person probably was getting along fairly well until she had cataract surgery, and then she started having trouble.

Dr. Furnas: Yes, that is true.

Dr. Iliff: Although I do not think the grafts are the problem, I have personally gotten away from using cartilage grafts on lids because it is difficult to get them to remain fixed in the shape you want. They tend to get a little fibrosis around them. Then they will wrinkle or fold, or you will see a prominent edge, and they will require repeat surgery. I have been using Medpor implants (Porex Corp., Fairburn, GA) for the past year or so, and I have been quite pleased with them. You do not have the donor site problems and you can shape them as you wish.

I think this patient’s lid position is not great but acceptable. I think the grafts look satisfactory. Bringing her lids up a bit more could be considered, but I would be willing to bet that her symptoms would not improve. I agree that releasing her capsulopalpebral fascia could be considered. An easy way to test that is to put your finger in the middle of the cheek and push up until the skin wrinkles. Then take your other finger and push up on the lid margin, and see if it goes up. If it does not go up easily, then you have a midlamellar contracture, and the capsulopalpebral fascia is too tight.

You can feel a little more encouraged that surgery deep in the lid, to release any restriction, might be of value if you hold the skin up and the lid does not move up readily. You want to be able to freely push the lid up past the center of the pupil. If the deeper tissues are not the problem, then you have to consider a midface lift to give her more skin, or a skin graft flap, which were the 2 procedures suggested for the first patient.

This particular patient would need a lot of work with lubricants and drops. I am pessimistic that bringing her lids up another millimeter or doing anything to that implant would improve her symptoms.

Dr. Furnas: How much experience do you have using Medpor implants in the eyelids?

Dr. Iliff: I have limited experience. I have done half a dozen patients—that would be 12 implants—and I have been pleased with how they go in and how they look. It is a thin implant, and it must be deep to the orbicularis. It has to be well covered by vascularized tissue, superficial to the conjunctiva. You could go through the conjunctiva, but I use a subciliary incision. I dissect anterior to the orbicularis until I get to the bottom of the tarsus. So I go immediately beneath the skin for about 4 or 5 mm.

At the inferior border of the tarsus, I dissect to the conjunctiva and release all the contracture—both the septum and the conjunctiva are released. With the lid retracted, I will release everything off the conjunctiva inferiorly until the lid seems completely free. That is usually going to be inferior to the level of the inferior rectus muscle insertion into the fascia. I extend my dissection to at least the inferior fornix, in general, and go about 2 or 3 mm inferior to the fibers of the inferior rectus insertion.

I then allow the lower-lid retractors and septum to fall inferiorly. I trim the top of the implant rather than the bottom, so that as the implant curves around the globe, the inferior portion of the implant will sit on the retractors at about the level of the orbital rim or just above it. It is necessary to trim the top of the implant so it follows a smooth line along the bottom of the tarsus.

I have the patient look straight ahead and adjust the lid at the point I want, which is usually about a millimeter above the inferior limbus. Then I suture the implant to the inferior border of the tarsus using 6/0 Mersilene (Ethicon Inc., Somerville, NJ) with a small needle so I do not make a big hole in the tarsus or in the implant. I might put in 1 or 2 tacking sutures to make sure the implant does not slip off the retractors because I will use a traction suture on the lid overnight, just to hold the lid up so it does not fold inferiorly. I am presuming the tissue will stick to the implant. I want to avoid the possibility that the bottom of the implant might flip forward and position itself over the rim.

One problem we are trying to solve with Medpor is that it holds the lid up so well that when the patients look down, they look behind the lid and complain that it blocks their
vision, especially in reading. I think that this is a technique-related problem, and it is a result of adhesion of the inferior portion of the implant.

**Dr. Furnas:** The third patient is a 59-year-old man who presented with entropion and after undergoing entropion correction and bilateral lower blepharoplasty about 6 months ago he now has ectropion (Figure 3). He could not completely close his right eye and had symptoms of irritation and tearing in both eyes.

**Dr. Iliff:** The entropion may be caused by 2 or 3 factors. The capsulopalpebral fascia plays an important part in holding the inferior border of the tarsus posteriorly against the globe. It is a part of the fascia that stretches and allows the bottom of the tarsus to roll out away from the eye. Horizontal lid laxity is another factor.

When you start out with an unstable lid, operate on it, and do not appropriately increase the stability, the lid can go in the other direction. So if you have an unstable lid and do anything to tighten the anterior lamella (such as a blepharoplasty), the margin will roll outward. In the oculoplastics community, the favorite procedure for repair of entropion is to do a subciliary incision to reattach the retractors to the lower lid and suture them to the inferior border of the tarsus. At the same time, the lid is tightened laterally. This patient probably had a little bit of skin removed and maybe not quite enough tightening laterally. The combination has caused his lid to evert. He has problems with both eyes, and you can see that his left eye is red and irritated as well. But on the right, you can see how it turns out when he blinks. That is a very unstable lax lid that, with a forced blink, turns outward.

What I would do here is a subciliary incision, then a lateral tarsal strip procedure to tighten his lid. After you release the skin, the lid will come to a normal position. Then you have to decide whether or not he has enough skin to allow you to just tighten the lid and do nothing else. I doubt that he has enough skin. If you look at this picture, the distance between his inferior limbus, which is where that lid margin should be, and his lashes, is about 5 mm. If you are able to do a subciliary incision and tighten his lid laterally, you are going to have about a 3-mm gap. If you feel that you could just tighten that lid enough to close that gap, I think you would be wrong. You would be trying to support his cheek by his lid and it would not work. You could consider supporting his cheek with a midface lift, but I would say that the best

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Figure 4. This 45-year-old man had a blepharoplasty 5 years ago and is self-conscious about the fold in his right lower eyelid.
thing for this gentleman is to take some of the extra skin off of his upper lid and do a skin graft.

**Dr. Metzner:** It is possible to detach the capsulopalpebral fascia when doing a transconjunctival blepharoplasty. To minimize that risk, I access the fat through short medial and lateral incisions with a central bridge that maintains the attachments intact.

**Dr. Wolfort:** This appears to be an entropion, and there is a very unstable lower lid that everts on forced blink. It needs horizontal tightening and reattachment of the lower-lid retractor to the inferior tarsal border.

**Dr. Furnas:** The last patient is a 45-year-old man, who had a blepharoplasty 5 years ago (Figure 4). He has this strange fold on the lower lid, not to speak of his upper lid, as you can see in Figure 4, B. He has been told this will mature—"...just massage it, and it will go away"—but this photograph was taken a year after surgery.

**Dr. Metzner:** It looks to me that as the surgeon was preparing to trim the lower lid, he advanced the flap superiorly and rotated it laterally. It appears as though the wrinkles sweep upward and outward. In my opinion, that is a faulty way of determining how much to trim. The direction should be directly superior. Without actually seeing him, my thought is to open the incision and de-rotate the flap. That would take the abnormal pull off, and it will leave a lateral gap in the crow’s-feet area, which will then have to be compensated for with some kind of local transposition flap, depending on the shape of the defect.

**Dr. Furnas:** Do you think a skin graft would be necessary?

**Dr. Metzner:** If the patient would be willing to accept a skin graft, this would be helpful.

**Dr. Furnas:** How would you shift the skin once you had it de-rotated and you had a gap?

**Dr. Metzner:** You would not have a gap in the lower lid itself but in the crow’s-feet area.

If it had a rhomboid shape, I would use a Limberg flap. If it were more or less round, I would use a regular rotation flap; if triangular, a V → Y advancement.

**Dr. Furnas:** Dr. Wolfort, any thoughts on that?

**Dr. Wolfort:** If it is a web, I would use the simplest thing: a V → Y to let the area flatten. If you could get some excess tissue from the upper lid, you might be able to use that too, as a transposition flap.

**Dr. Iliff:** A skin graft may well work if he were willing to accept it.