A Review of Common Eyelid Conditions for the Primary Care Physician
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ABSTRACT

This article describes 5 common eyelid conditions that often present to primary care physicians and may warrant surgical treatment. A patient who presents with one of these conditions can be readily identified by his or her physician and should be advised to seek evaluation with an oculoplastic surgeon if the condition is debilitating. Surgical correction is typically covered by medical insurance if the condition is symptomatic or threatens vision. Physicians should be able to recognize these frequently encountered eyelid problems and to help alleviate the associated symptoms while patients await referral and surgical correction.

Blepharoptosis (drooping of the upper eyelid) is usually corrected by shortening the tendon of the levator muscle that raises the eyelid. Alternatively, if levator muscle function is poor, the eyelid can be attached to the frontalis muscle with fascia lata or another material, allowing the patient to elevate the eyelid by raising the eyebrow. Blepharoplasty surgery for dermatochalasis (excess upper eyelid skin) can relieve symptoms, such as decreased peripheral vision and brow ache. Entropion (the turning inward of the lower eyelid) is treated by tightening the lower eyelid and reattaching the lower eyelid retractors. Ectropion (the turning out of the lower eyelid) can be secondary to aging or can result from scarring of the skin of the lower eyelid or cheek. Ectropion is also treated by tightening the lower eyelid—with the possible addition of a skin graft. Trichiasis (the acquired misdirection of eyelashes toward the eye) is often treatable with several rounds of electrolysis.


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ive common eyelid conditions, and the symptoms they produce, can be recognized by a primary care physician (Table). Surgery for these eyelid abnormalities is indicated when the problem is vision threatening, painful, irritating, or unsightly. While some of these surgical techniques have been used for decades with only minor refinements, eyelid surgery in adults is now often performed on an outpatient basis under local anesthesia with or without conscious sedation.

BLEPHAROPTOSIS

Ptosis of the upper eyelid, called blepharoptosis, is the drooping of 1 or both upper eyelids. Involutional blepharoptosis is caused by stretching or disinsertion (dehiscence) of the tendon of the levator muscle.
that raises the eyelid (Figure 1A). The dehiscence of the levator tendon can result from eye surgery, eyelid manipulations that are required for wearing contact lenses, or aging. Blepharoptosis can also be neurogenic, secondary to damage or dysfunction of the nerves associated with raising the eyelid; or myogenic, secondary to poor intrinsic muscle function, as in congenital blepharoptosis. Involutional blepharoptosis is most commonly seen in elderly patients. Apart from advancing age, risk factors for blepharoptosis include: diabetes; stroke; Horner's syndrome; myasthenia gravis; third nerve palsy; and cancers that affect nerve or muscle function. Patients with blepharoptosis may complain of blurred or reduced vision, fatigue (especially while reading), or constricted peripheral vision. They may experience brow ache from straining to keep their eyelids opened. In children, severe congenital blepharoptosis can lead to amblyopia, by blocking vision or inducing refractive errors—especially astigmatism. Blepharoptosis surgery is covered by medical insurance if the procedure is considered medically necessary. Coverage requires documentation of the patient's symptoms, documentation of the peripheral vision loss by a visual field test (Figure 2), and photographs of the patient.

Blepharoptosis can be unilateral (one upper eyelid) or bilateral (both upper eyelids), and

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<td><strong>Condition</strong></td>
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surgery is directed by the patient's symptoms. For example, the patient shown in Figure 1A presented with bilateral blepharoptosis, but the condition was worse on the right side. She was symptomatic only on the right side and agreed to surgery only on the right upper eyelid. However, following levator resection, the patient was still symptomatic on the right side (Figure 1B). It was determined that further surgery on only the right side would result in a cosmetically unacceptable asymmetry; the patient then agreed to have further blepharoptosis surgery on both sides (Figure 1C).

Accurate identification of the etiology of blepharoptosis, as with the other eyelid disorders discussed in this article, is important because the cause of the disorder determines the surgical approach. Surgical correction for involutional blepharoptosis (known as a levator resection) aims to reattach the levator tendon or to resect the stretched tendon. In these cases, the surgery is performed under local anesthesia with conscious sedation, allowing the patient to cooperate with the procedure. The tendon is approached through an incision in the eyelid crease and then reattached to the tarsus—the rigid part of the eyelid—to restore a normal eyelid position. The patient is asked to open and close his or her eyes, while the sutures are adjusted to optimize the eyelid position and contour.

In cases of poor or absent levator muscle function in one or both eyes (eg, neurogenic blepharoptosis and myogenic blepharoptosis), levator resection is often not the best surgical treatment. The eyelid with poor levator function, as in the case of congenital blepharoptosis, has a small, fixed range of motion. In these cases, shortening of the tendon would result in an inability to close the eye completely. Instead, in cases of very poor levator function, the eyelid...
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Figure 3. Congenital Blepharoptosis and Frontalis Suspension

(A) A patient with severe bilateral congenital blepharoptosis and poor levator function. (B) The same patient 6 weeks after bilateral fascia lata sling surgery. The 3 incisions just above the eyebrow are barely noticeable. This patient’s eyes remain slightly opened at night and she has to apply ointment before she sleeps, but during the day she is comfortable.

Figure 4. Dermatochalasis

(A) A patient with dermatochalasis (excess upper lid skin), which blocks greater than 50% of her superior field of vision. (B) The eyelids cross the eyes at a normal position when the excess skin is supported, which distinguishes dermatochalasis from blepharoptosis.

is attached to the frontalis muscle with a fascia lata sling, sometimes called a frontalis suspension sling, allowing the eyelid to open and close via raising and lowering of the eyebrow (Figures 3A and 3B). Cadaveric fascia is now often used to avoid creating a second surgical site, but autogenous fascia from the thigh also can be harvested and used for this purpose. The success rates for procedures using autogenous vs allograft tissue are not significantly different. Some surgeons use other materials, such as silicone rods.

DERMATOCHALASIS

Dermatochalasis is characterized by redundant and lax upper eyelid skin (Figure 4A). If the extra skin is supported, the eyelids cross the eyes in a normal position, in contrast to blepharoptosis (Figure 4B). Patients can also have both dermatochalasis and blepharoptosis simultaneously. Dermatochalasis is more often the cause of symptoms in the upper eyelids, but it can also affect the lower eyelids. Certain systemic diseases (eg, thyroid eye disease, renal failure, cutis laxa, Ehlers-Danlos syndrome, amyloidosis, hereditary angioneurotic edema, and xanthelasma) are predisposing factors, but the most common causes of dermatochalasis are loss of elastic tissue in the skin and weakening of the connective tissues of the eyelid associated with aging.

As in patients with blepharoptosis, patients with dermatochalasis may complain of poor vision, brow ache, and decreased peripheral vision. They often describe being able to see either the excess skin or their eyelashes. Patients may also have cosmetic complaints, such as a fullness of the upper eyelids or wrinkles of the lower eyelids.

Excess skin is removed surgically via a blepharoplasty. The surgeon must take care not to remove so much skin that the patient cannot close his or her eyes. There is also a risk of pulling the lower eyelids down and away from the eyes if too much skin is removed from the lower eyelid. When a great deal of prolapsing orbital fat is present, the orbital septum, which separates the eyelid from the orbit, can be opened and some of the fat removed. Figures 5A and 5B show a patient before and after upper eyelid blepharoplasty. Upper eyelid blepharoplasty, like blepharoptosis surgery, can be covered by medical insurance if deemed medically necessary. Lower eyelid blepharoplasty, by contrast, is almost always considered cosmetic.
ENTROPION

Entropion is the turning inward of the lower eyelid. Involutional entropion is the most common form of this disorder, and results from aging-associated changes of the lower eyelid (i.e., horizontal eyelid laxity and disinsertion of the lower eyelid retractors) that allow the eyelid to roll inward. In cases of cicatricial entropion, scarring of the tarsal conjunctiva can result from any of the following: trauma, chemical burns, Stevens-Johnson syndrome, ocular pemphigoid, infections, or local response to topical medication, all of which drag the edge of the eyelid inward.

Patients with entropion complain of a constant irritation or scratching sensation from their eyelashes rubbing the eye, and they often liken it to having sand in their eye. Other symptoms include tearing, light sensitivity, and redness of the eye (Figure 6A). A primary care physician can help these patients prior to surgery, by showing the patient how to evert the eyelid with a piece of tape, which holds the lashes away from the eyelid (Figure 6B). Lubrication with artificial tear ointment is also helpful.

The surgery for involutional entropion is designed to horizontally tighten the lower eyelid and/or reattach the lower eyelid retractors, which are the anatomic equivalent to the upper eyelid’s levator tendon. A combination of both procedures has been shown to be most effective. The lower eyelid can be tightened by a wedge resection, where a full-thickness trapezoid-shaped piece of the eyelid is removed and the eyelid edges reapprimated, or a tarsal strip procedure in which the eyelid is tightened laterally by creating a strip of tarsus and securing it to the periosteum of the lateral orbital wall. Figures 7A and 7B show a patient with lower eyelid entropion before and 1 week after repair. Patients who present with entropion typically report immediate relief after surgical correction. Patients with cicatricial entropion often require a mucous membrane graft from the mouth to lengthen the inside of the eyelid.

ECTROPION

Ectropion is the turning outward of the lower eyelid. As in entropion, the lower eyelid is usually too long from side to side (Figure 8A). However, in ectropion, anterior traction on the eyelid causes it to hang down. The traction can result from descent of the cheek associated with...
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aging or from contraction of the eyelid skin (cicatricial ectropion) from sun damage, chronic dermatitis, or trauma. Paralytic ectropion may occur with seventh nerve palsy. Mechanical ectropion may occur with eyelid tumors, such as neurofibromas. Cicatricial ectropion can also be caused by excessive skin removal during blepharoplasty surgery.

Patients present with complaints of foreign body sensation, tearing, redness, and sensitivity to light. They may wipe their eyes excessively, which worsens the eyelid laxity and the subsequent “turning out” of the lower eyelid. Ectropion can result in corneal exposure, keratin formation on the conjunctiva, and even loss of vision. Sometimes, the eyelid can be temporarily supported with tape to improve symptoms, especially in cases of paralytic ectropion (Figure 9).

Correction of ectropion involves tightening the eyelid from side to side with a full-thickness wedge resection or a laterally tarsal strip procedure. The woman in Figure 10A had a seventh nerve palsy, resulting in a paralytic ectropion of her right lower eyelid. The patient also exhibited brow ptosis. Her lower eyelid ectropion was corrected with a lateral tarsal strip procedure, and her brow was elevated by resecting the skin directly above her eyebrow (Figure 10B). In cases of cicatricial ectropion, and often in cases of involutional ectropion, the horizontal eyelid tightening is combined with either a midface lift to recruit additional skin or a free skin graft to address the anterior shortening. The skin graft can usually be taken from the upper eyelid.

TRICHIASIS

Trichiasis is the acquired misdirection of eyelashes toward the globe (Figure 11). This may occur in a small area or across the entire eyelid. Trichiasis usually results from scarring of the eyelid margin from trauma, chronic inflammation, or sometimes from skin cancer. Trichiasis, an eyelash abnormality, must be distinguished from entropion, an eyelid abnormality.

Symptoms of patients with trichiasis are similar to those of patients with entropion, including a foreign body sensation and tearing. Trichiasis can impair vision and can be associated with corneal abrasion, scarring, and infection. A primary care physician can improve a patient’s symptoms by recommending lubrication with artificial tear ointment or gel.
Although mechanical epilation of the offending eyelashes also improves a patient's symptoms, this is generally not recommended because the lashes will eventually grow back. Additionally, mechanical epilation obscures the region of trichiasis, making identification of the region and thus treatment of the trichiasis by the ophthalmic surgeon difficult.

Permanent treatment of trichiasis entails applying either radiofrequency or electricity passed through a very small needle to destroy the follicles of the misdirected lashes. Lashes grow in staggered cycles; several rounds of treatment are typically necessary over a period of months to completely eliminate a region of trichiasis. If the region is quite localized or corresponds to a scar or notch in the eyelid, resection of the abnormal segment of eyelid is usually curative.

**Conclusion**

Blepharoptosis, dermatochalasis, entropion, ectropion, and trichiasis often warrant surgical treatment, which is typically covered by medical insurance if symptomatic or vision threatening. In some cases, the symptoms can be reduced by simple techniques using tape or lubrication prior to definitive treatment. The signs and symptoms of eyelid abnormalities overlap; careful evaluation is important to determine the etiology and the appropriate surgical repair procedure.

**REFERENCES**