



The ptosis spectacle

Dr Narendra Kumar discusses ptosis and its management by use of a ptosis prop

P ptosis is a drooping of the upper lid, which is usually due to weakness, deficient development or absence of the levator palpebrae superioris muscle. Normally, the upper lid rests approximately 2mm below the upper limbus when the eye is looking straight ahead, the lower lid normally 1mm above the lower limbus. The vertical palpebral fissure for adult males is between 7 and 10mm and for females it is 8 to 12mm. According to Coles,¹ ptosis (bilateral or unilateral) may be

- Congenital when it is present at birth, or
- Acquired when it develops after birth.

Acquired ptosis may be:

- Senile or age-related
- A result of oculomotor (third nerve) palsy
- Due to intracranial tumour, or
- A result of trauma, as in intraocular surgery, for example, after cataract surgery. Pseudoptosis can be simulated in a small globe due to injury or inflammation, resulting in an abnormal shape, as in pthisis bulbi.

The patient complains of the cosmetic effect of the drooping of the upper lid, and in more marked cases there may be interference with vision. In congenital cases this interference may be sufficient to cause amblyopia.

Lyle and Cross² suggest the following line of treatment. In cases of congenital origin, if the deformity is not of gross degree and there is no interference with vision, which might lead to amblyopia, surgical treatment may be postponed until the child attains the age of four or five years; otherwise the operation may be needed even for cosmetic reasons. When the condition is acquired, treatment depends upon the cause which must be investigated. In cases of paralysis of the oculomotor nerve, however, the drooping eyelid may serve the useful function of preventing double vision, and if there is useful vision in the eye



Figure 1
Ptosis;
pre- and
post-
operative



Figure 2 An infant with congenital bilateral ptosis due to Mobius's syndrome (Image courtesy of J Kanski, *Clinical Ophthalmology*, 4th edition, Butterworth-Heinemann)

the possibility of correcting diplopia should be considered before the eyelid is returned to its normal position. Also, surgical correction by fixing the eyelid at a higher level should not be so great that the eye cannot be closed (Figure 1 depicts optimal surgical correction).³

DeSouza *et al*⁴ describe an infant having congenital bilateral ptosis and her remarkable ability to lift the eyelid with the hand in order to see. (Figure 2 shows a child with Mobius's syndrome).

In cases where surgery is not preferred or indicated (as decided by an oculo-plastic surgeon) and in elderly patients, a prosthetic device such as ptosis props fixed to the back of the spectacle frame (or a ptosis crutch or a ptosis spectacle) is often of great value.

Until recently, in India, a small semi-circular piece cut from the periphery of an old gramophone record used to be glued to the inside of the upper portion of a plastic spectacle frame to lift and support the drooping upper lid. However, the device was not cosmetically appealing and was also uncomfortable.

Moss⁵ reports on the method of relieving ptosis with the use of a scleral contact lens. Either the superior flange of the shell is built up by increasing the mass, which will move the upper lid and improve ptosis, or a shelf is placed across the upper section of the scleral lens to support the upper lid. But this approach results in lack of blinking. Moss⁵ also details the making of an improved crutch by utilising steel orthodontic round wire of spring tempered quality and fixing it to the bridge of a modern plastic spectacle frame to improve cosmesis and give greater movement to the upper lid. The procedure is, however, cumbersome and needs precision.

Let us now consider a comparatively easier method of making a ptosis spectacle by fixing support⁶ (made of non-conspicuous nylon thread that is sturdy and comfortable, too) to a plastic frame. A hole, slightly smaller than the thickness (diameter) of the support, is drilled at the bridge on the front side of the frame. One end of the support is thinned with a surgical knife or razor blade and the cord (nylon thread) pushed on the inside of the frame.



Figure 3 Ptosis spectacle (frame fitted with support)

Another hole is drilled at the temple on the inside of the frame out of which the free end of the cord is pulled out. The nasal end of the cord is pressed with a plier so as to flatten it to prevent it from coming out of the hole at the bridge. Easy adjustment can be made by pulling the support from the front at the temporal end with a pair of pliers until the required depth is achieved (Figure 3). The support will then fit the contours of the upper lid. Care needs to be taken not to over-correct the drooping upper lid elevation, so as to avoid secondary mechanical effects on ocular surface/adnexa due to the support.

The prosthetic device can correct almost all types of ptosis. The cosmetic improvement is startling, the emotional impact is rewarding, and there may well be the possibility of prolonged functional improvement in the condition because of mechanical stimulation.⁷

Step-wise revision of the fixing of the ptosis support:⁸

- Drill two holes with a smaller diameter than the nylon cord through the temporal and nasal ends of the eyewire
- Taper the ends of the cord and thread through the holes from the proximal side
- With a pair of pliers, pull the cord through frame at the bridge and cut off the cord level with the frame (the fact that the hole is smaller than the cord will make it a secure fit)
- Fit the frame on the patient and pull the cord through until the support is in the correct position, then cut off surplus cord.

Ptosis, the condition of drooping upper lid, is the prerogative of the oculo-plastic surgeon. But, there are cases where either the doctor decides against surgery or the patient simply refuses to be operated upon. Ptosis, then, comes in the domain of the optometrist who should be able to provide a judiciously fitting pair of ptosis spectacles to lift the drooping upper lid.

References

- 1 Coles WH. *Ophthalmology – A Diagnostic Text*. 1989. Williams & Wilkins, Baltimore, USA.
- 2 Lyle TK, Cross A G. *May & Worth's Manual of Diseases of the Eye*. 1959. Bailliere, Tindall and Cox, London, UK.
- 3 Pre- and post- surgical correction of Ptosis pictures supplied by Oculoplastic Surgeon Dr Maneesh Kumar <ophthacare@gmail.com>
- 4 DeSouza R, Spencer DA, Coe A. Infant's photograph cited in *Optometry Today* (India), Vol. 18, No 1, 1992.
- 5 Moss HL. Prosthesis for blepharoptosis and blepharospasm. *J Amer Optom Assoc*, 1982; 53: 661-667.
- 6 Ptosis spectacle is made/support is supplied by *Optometry Today*, <kumars@vsnl.com>
- 7 Walsh G, Rafferty PRM, Lapin J. A simple new method for the construction of a ptosis crutch. *Ophthal Physiol Optics*, 2006; 26(4): 404-407.
- 8 Personal correspondence (letter dated April 12, 1984) with Mr Gordon Duff of GD Spectacle Wear, Swansea, Glamorgan, UK.

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eye  local
independent optician

Independent Practitioner? Get Involved!

Johnson & Johnson Vision Care has announced that it will be supporting Sight Care Group on its 'Eye Love My Local Independent Optician' campaign, encouraging patients to support their independent local optical practices.

The initiative aims to help independent practitioners raise awareness of the benefits of their practice and increase footfall by helping patients realise that an independent practice can offer a lot more than just an eye test. Sight Care Group will help them do this by assisting participating practices to communicate with local media on an ongoing basis to highlight the importance of regular eye exams.

David Ruston, Director of Professional Affairs for Johnson & Johnson Vision Care in Western Europe, said, "Johnson & Johnson Vision Care is proud to be



supporting a campaign that gives the independent sector a voice, and we are looking forward to working with the Sight Care Group. By taking part in the 'Eye Love My Local Independent Optician' campaign, eye care practitioners will be able to attract new patients and retain old ones by positioning themselves as an important contributor to the local community."

Patients and independent practitioners can log on to www.eyelovetocal.co.uk for more information and to get involved. Members of the Sight Care Group have been sent a Marketing Pack to help them show their support for the campaign with a range of posters, window stickers and point of sale materials. Eye care practitioners on Twitter can keep up to date with the latest developments and news by following [@EyeLoveLocal](https://twitter.com/EyeLoveLocal)

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