

Ptosis

WHAT IS A DROOPY EYELID OR PTOSIS?

A droopy eyelid, also called ptosis occurs when the muscle that elevates the eyelid (the levator palpebrae superioris muscle) is weak from various reasons. The most common cause in children is when the levator palpebrae superioris does not develop well. This is present at birth and is called congenital ptosis. Less common, the muscle can become weak later in life later in life causing acquired ptosis. Ptosis can involve one or both upper eyelids to various degrees, with or without symmetry (Figure 1).



Fig. 1: Ptosis can involve one or both upper eyelids.

WHAT PROBLEMS CAN OCCUR AS A RESULT OF CHILDHOOD PTOSIS?

If the ptosis is mild it does not interfere with the visual development and does not require any treatment. An eye exam by a pediatric ophthalmologist is indicated to evaluate if the ptosis interferes with vision and if treatment is warranted.

The droopy eyelid may cause:

1. Astigmatism- If the pressure on the front of the eye causes distortion and refractive error it may need close observation, treatment with glasses or even surgery.

2. A chin up position- If the ptosis is severe enough it may cause the child to adopt a chin up position in order to be able to see beneath the droopy eyelids and use the eyes together. This may cause further neck problems and/or delay of developmental skills. Contraction of the frontalis muscle (in the forehead) to further elevate the upper eyelid is a very common compensatory mechanism. This is also an indication for surgical correction.
3. Amblyopia (abnormal visual development)- This results from astigmatism (a misshaping of the cornea) or [other refractive errors](#) (refractive amblyopia). In rare, extreme cases where the ptosis covers the eyelid completely, it actually prevents light from entering the eye and creating an image on the retina at the back of the eye (deprivation amblyopia).

WHAT CAUSES ACQUIRED PTOSIS?

Acquired ptosis can be caused by neurologic conditions that affect the nerves and/or muscles of the eye. These include myasthenia gravis, progressive external ophthalmoplegia, Horner syndrome, and [third cranial nerve palsy](#). The ptosis may be combined with an eye movement disorder with resultant double vision. An eyelid mass can also cause ptosis.

HOW IS PTOSIS EVALUATED BY THE OPHTHALMOLOGIST?

A complete eye examination is performed with special attention given to the history, to the eyelid position, vision assessment, refraction, and the head position. Special tests such as radiographic exams (x-rays or CT scans) are not commonly ordered.

HOW IS PTOSIS TREATED?

Ptosis is treated by eyelid surgery. It should be done as soon as there are signs of interference with the visual development. If it does not interfere with vision, surgery can be delayed for later in life, most commonly performed in the preschool years.

This is why it is important to monitor children regularly for vision abnormalities.

WHAT SURGICAL OPTIONS EXIST?

The surgical approach depends on the function of the levator palpebrae muscle, the muscle that lifts the eyelid. The two most common approaches are presented below. There are other options for more uncommon types of ptosis.

Levator resection: If the muscle has residual function it is possible to lift the eyelid by shortening the muscle, thus removing a part of it to make the eyelid shorter and look more similar with the fellow eye.

Ptosis repair by frontalis sling: If the residual function is minimal or absent the ptosis may be corrected by connecting the eyelid margin to the frontalis muscle in the forehead using different materials like sutures, silicone, donor or autologous fascia. The function of the eyelid will depend upon the use of the frontalis muscle.

The surgical correction prevents visual impairment and improves the cosmetic appearance in primary gaze however the surgery cannot reestablish a normal levator muscle function. It is normal to notice asymmetry in up and down gaze and to see a small gap between the eyelids when the child is asleep.

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