Ptosis

WHAT IS A DROOPY EYELID OR PTOSIS?
A droopy eyelid, also called ptosis, occurs when the muscle that lifts the eyelid (the levator palpebrae superioris muscle) is weak. The most common cause in children is when the levator palpebrae superioris does not develop well. This type of ptosis is present at birth and is called congenital ptosis. Less common, the muscle can become weak later in life. This is called acquired ptosis. Ptosis can involve one or both upper eyelids and can be worse in one eye compared to the other. (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 is less likely to cause problems with the vision and does not need to be treated. An eye exam by a pediatric ophthalmologist is needed to see if the ptosis causes problems with vision and if treatment is needed.

The droopy eyelid may cause:

1. Astigmatism- If the eyelid puts pressure on the front of the eye it can change the shape of the eye causing distortion (vision is stretched or wavy) and it may need to be watched closely, treated with glasses or may even need surgery.

2. A chin up position- If the ptosis is bad enough it may cause the child to tilt their chin up in order to be able to see beneath the droopy eyelids and use the
eyes together. This may cause neck problems and/or delay of developmental skills. It is also common for bad ptosis to cause a child to tighten the forehead muscle (frontalis) in order to lift the eyebrow and lift the eyelid more to use both eyes together. Lifting the chin and using the eyebrow to lift the eyelid may be a sign that surgery is needed.

3. Amblyopia (poor vision development)- This can be caused by astigmatism (a misshaping of the front of the eye, see above) or other refractive errors (problems focusing due to a need for glasses). In rare, extreme cases where the ptosis covers the eye completely, it actually prevents light from entering the eye and creating an image on the retina at the back of the eye. Bad ptosis can lead to very poor vision even with the best glasses in place (deprivation amblyopia).

WHAT CAUSES ACQUIRED PTOSIS?

Acquired ptosis can be caused by neurologic conditions (problems in the brain) that affect the nerves and/or muscles around the eye. These problems include myasthenia gravis, progressive external ophthalmoplegia, Horner syndrome, and third cranial nerve palsy. This kind of ptosis may also have eye movement problems. A large swelling or bump on the eyelid can also cause acquired ptosis.

HOW IS PTOSIS EVALUATED BY THE OPHTHALMOLOGIST?

A complete eye examination with special attention given to the history, to the eyelid position, vision, refraction (possible need for glasses), and the head position can help better understand ptosis. Special tests such as radiographic exams (x-rays or CT scans or MRI scans) are not always ordered.

HOW IS PTOSIS TREATED?

Ptosis is treated by eyelid surgery. It should be done as soon as there are signs of vision problems that cannot be improved with other treatments. It is important to monitor children regularly for vision problems when they have ptosis.

If the ptosis does not cause problems with vision, surgery can wait until later in life, most commonly performed in the preschool years.
WHAT SURGICAL OPTIONS EXIST?

The type of eyelid surgery depends on how well the levator palpebrae muscle, the muscle that lifts the eyelid, works. The two most common eyelid surgeries for ptosis in children are presented below. There are other treatments for less common types of ptosis.

**Levator resection:** If the eyelid muscle still works but just not quite well enough, it is possible to lift the eyelid by shortening or tightening the muscle to make the eyelid lift higher and look similar to the other eye.

**Ptosis repair by frontalis sling:** If the eyelid muscle really does not lift the eyelid at all, the ptosis may be corrected by connecting the eyelid edges to the frontalis muscle in the forehead. This is the muscle that helps raise the eyebrows. This type of eyelid surgery uses things like sutures or stitches, silicone (flexible plastic like material), donor or autologous fascia (tissue from a different part of the body) to connect the eyelid edge to the forehead muscle. How well this surgery works depends on how well the child with ptosis uses the frontalis muscle.

Ptosis surgery can help with vision and improve the cosmetic appearance of the eyelid. However, surgery cannot make the levator muscle as well as it would if it had been formed normally. After ptosis surgery, it is common to notice an unevenness to the eyelids when the child is looking around and a small gap between the eyelids when the child is asleep.

For more information about ptosis and how to treat it, speak with your child’s ophthalmologist.

*Updated 03/2023*