

## CONGENITAL PTOSIS SURGERY

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Congenital Ptosis is one of the most frequently conditions managed by the oculoplastic surgeons. Management of the condition requires a thorough understanding of the surgical anatomy and a meticulous surgical technique based on a proper evaluation.

It is advisable to wait till 3-4 years of age when the tissues are mature enough to withstand the surgical trauma and as better assessment and postoperative care is possible due to patient's co-operation. There should be no delay in surgical management in cases of severe ptosis where pupil is obstructed and the possibility of the development of amblyopia is high. In these cases a temporary procedure may be opted early on followed by definitive surgery later. Surgical approach depends on

1. Ptosis is unilateral or bilateral
2. Severity of Ptosis
3. Levator action
4. Presence of abnormal ocular movements, jaw winking phenomena or blepharophimosis syndrome

The choice of surgical procedure for congenital ptosis depends primarily on-

1. Amount of ptosis as determined on the basis of MRD.
2. Levator action.

### COMMONLY PERFORMED SURGERIES

- 1 Fasanella Servat Operation
- 1 Levator resection
- 1 Brow suspension ptosis repair

### INDICATIONS FOR THE CHOICE OF DIFFERENT SURGICAL PROCEDURES

Ptosis	Levator action	Surgery
Mild	> 10 mm	Fasanella Servat or small levator resection
	< 10 mm	Levator resection
Moderate	Good	Levator resection
	Fair	Levator resection
Severe	Poor (rare)	Whitnall's sling or Brow suspension
	Fair	Levator resection or Brow suspension ptosis repair
	Poor	Brow suspension ptosis repair

### Bilateral Ptosis

In cases of bilateral ptosis, bilateral surgery is preferred to ensure a similar surgical intervention in the two eyes. However in cases where gross asymmetry exists between the two eyes the eye with a greater ptosis may be operated first and the other eye is operated after 6-8 wks when the final correction of the operated eye can be assessed.

### SURGICAL TECHNIQUES

#### Modified Fasanella Servat surgery

It is the excision of tarsoconjunctiva, muller's and levator. We use a simple modified technique that avoids the use of haemostat or any special clamp.

Xylocaine with adrenaline is used for local anaesthesia in adults but general anesthesia is required for children .

#### Surgical steps (Fig 1 a-d)

The lid is everted and tarsal plate is exposed. Three sutures are passed close to the folded superior margin of the tarsal plate at the junction of middle, lateral and medial one third of the lid. Three corresponding sutures are placed close to the everted lid margin to near the superior fornix in positions corresponding to the first 3 sutures. Proposed incision is marked on the tarsal plate such that a uniform piece of tarsus, decreasing gradually towards the periphery. This is necessary to avoid the central peaking. A groove is made on the marked line of incision and the incision is completed with the scissors. The first set of sutures help in lifting the tarsal plate for excision. The second set aids suturing by lifting and supporting conjunctival and tarsal edges during suturing. The tarsal plate not more than 3 mm is excised.

5-0 plain catgut is used for continuous suturing and the knot buried under the wound. Postoperatively the patients are kept on antibiotics and antiinflammatory agents and cornea observed for any sign of abrasion.

The preoperative and post operative photographs of the patient are shown below in the primary and up and down gaze ( Fig 2a-d) .



Fig 1a - Lid everted exposing the tarsal plate.: Sutures passed through the superior margin of the tarsal plate.: Corresponding sutures passed close to everted lid margin. Proposed incision marked.



Fig 1b -Incision is completed with scissors



Fig 1c Conjunctival and tarsal edges raised with the aid of the sutures



Fig 1d -continuous sutures with 5'0 plain catgut.

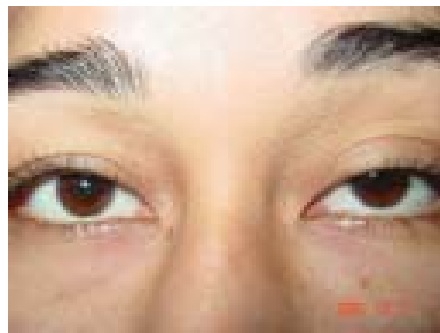


Fig 2a - Preoperative photograph of left eye mild ptosis in primary gaze

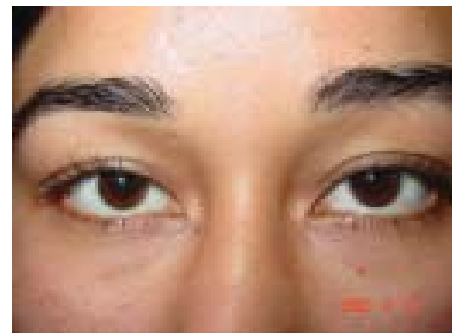


Fig 2b - postoperative photograph in primary gaze

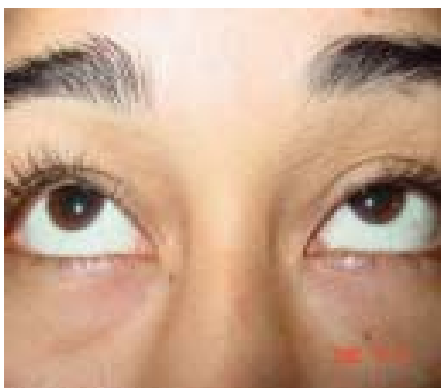


Fig 2c  
Preoperative  
photograph in  
upward  
gaze



Fig 2d -  
postoperative  
photograph in  
upward  
gaze

**Levator resection**

This is the most commonly practiced surgery for ptosis correction. It may be performed by skin or conjunctival route but the former is preferred by most surgeons because it allows a good titration / assessment on the table and creates a good lid fold.

2% Xylocaine with adrenaline is locally infiltrated. The injection is also used in cases being operated in general anaesthesia to help in haemostasis.

**Surgical steps**

The proposed lid crease is marked to match the normal eye considering the margin crease distance of the normal eye as well as the amount of skin show measured in the primary position. In bilateral cases highest forming crease is used which is usually at the superior border of the tarsus or standard measurements can be used.

Three 4-0 silk sutures are passed near the lid margin to provide traction. A lid spatula placed under the lid and

incision through the skin and orbicularis made along the crease marking (Fig 3a). The inferior skin and orbicularis are dissected away from the tarsal plate ( Fig 3b). The

upper edge is separated from the orbital septum. The orbital septum is cut completely across exposing the preaponeurotic fat( Fig 3c). Fat is retracted posteriorly

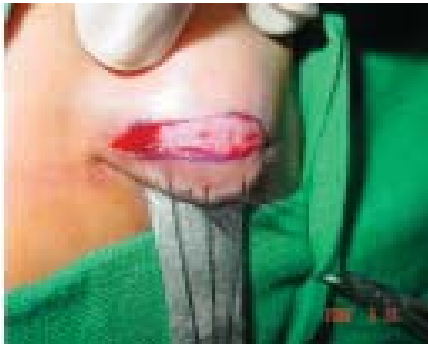


Fig 3a - Three 4-0 silk sutures are passed near the lid margin to provide traction. The proposed lid crease is marked to match the normal eye. Skin and orbicularis are incised.

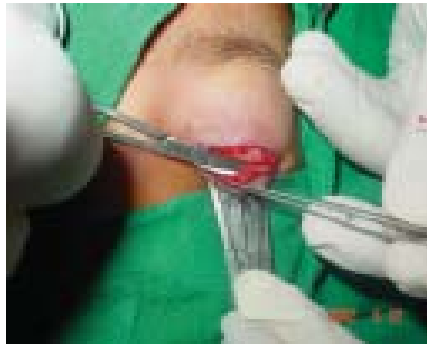


Fig 3b - Skin and Orbicularis dissected from tarsal plate.

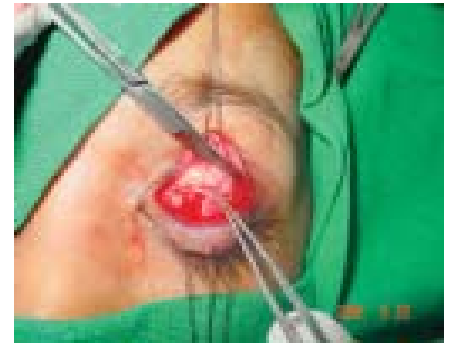


Fig 3c - Dissection done superiorly from the orbital septum. Orbital septum cut exposing the preaponeurotic fat



Fig 3d-Levator fibres of aponeurosis being cut from its insertion in the inferior half of the anterior surface of tarsus



Fig 3e - Levator is freed from the adjoining structures

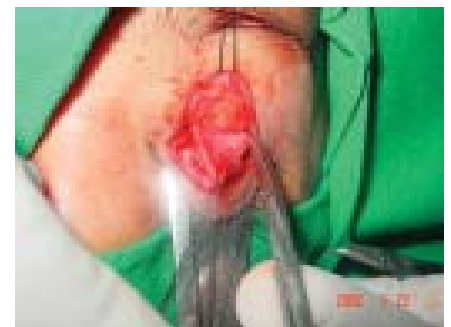


Fig 3f- Lateral horn being cut. The direction of the cut should be vertical to avoid damage to the pulley of superior oblique muscle medially avoiding damage to whitnall's ligament



Fig 3g- Double armed 5/0 vicryl sutures passed through the tarsus.



Fig 3h -Three double armed suture passed through the levator and tightened and intraoperative assessment made. Extra levator is cut



Fig 3 i - Strip of excess skin removed.



Fig 3j-Four to five lid fold forming sutures are placed. The sutures pass through skin edges taking a bite through the cut edge of levator. Skin sutures applied. An inverted

exposing the whole tendinous aponeurosis. Three partial thickness traction 4-0 silk suture are passed through the distal end of the aponeurosis. The fibers of the aponeurosis are cut from their insertion in the inferior half of the anterior surface of the tarsus ( Fig 3d). The levator is freed from the adjoining structures( Fig 3e) . The lateral and the medial horn may be cut (fig 3f). The direction of the

cut should be vertical to avoid damage to the lacrimal gland or the pulley of superior oblique muscle respectively. Care should be taken that Whitnalls ligament is not damaged which is visualized as a whitish fascial condensation running across the junction of the muscular and aponeurotic part of the levator about 15 mm from the insertion. A double armed 5-0 vicryl is passed through

the tarsus and levator and intraoperative assessment made (Fig 3g). Three double armed vicryl 5 - 0 sutures are passed through the tarsus about 2 mm from the upper border in the center and at the junction of central third with the medial and lateral thirds (fig 3h). These sutures are then placed in the levator and intraoperative assessment made. The lid level and contours are evaluated. The eyelid is left at the position determined preoperatively based on the levator action.

The excess levator is excised. If required a strip of skin is removed from above the lid crease (fig 3i). A piece of orbicularis may be excised inferior to the lid crease to debulk the lid. Four to five lid fold forming sutures are placed. The sutures pass through skin edges taking a bite through the cut edge of levator (fig 3 j). An inverse frost 6-0 silk suture is passed through the lower lid margin over a bolster. Patients are prescribed oral antibiotics and antiinflammatory agents.