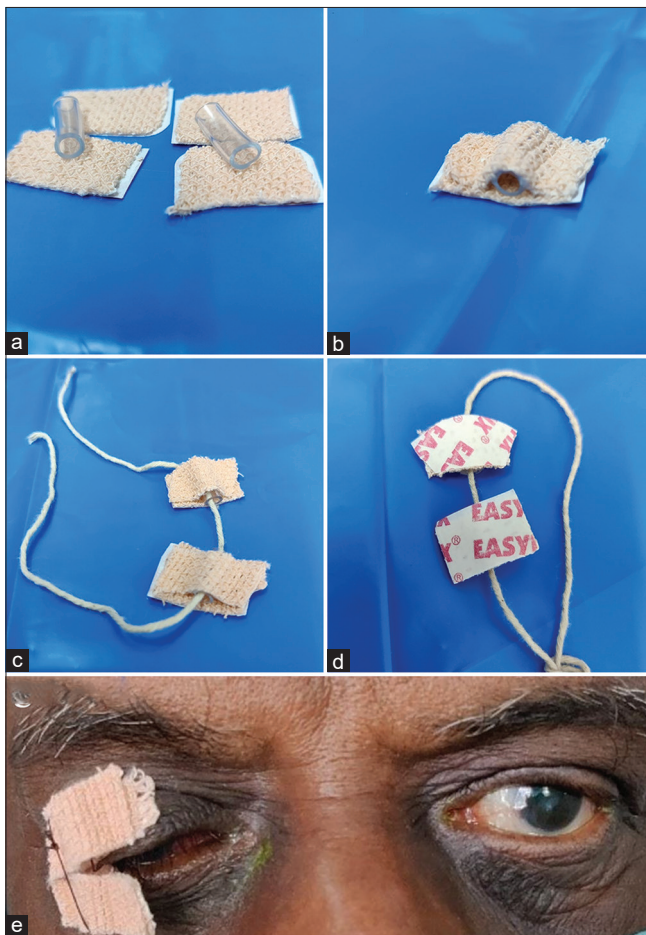


# Outpatient temporary tarsorrhaphy: An alternative, cost-effective, non-surgical model for ocular surface disorders

Dear Editor,

The standard technique of temporary tarsorrhaphy is the surgical closure of anterior lamella of the upper and lower eyelids.<sup>[1]</sup> For old-aged and debilitated patients, one-eyed, those admitted in ICU with coagulation disorders, and for patients, who don't prefer surgical method, we propose a simple, non-invasive, non-surgical temporary, reversible, reproducible, and repeatable outpatient tarsorrhaphy (OPT) for all age groups needing corneal protection. This novel technique is based on the design of the suture-less zipper technique of skin closure.<sup>[2]</sup>

The materials required are adhesive plaster (easy-fix adhesive), threads used to braid the garland (1 mm diameter), and hollow, 1 cm-sized, cut pieces of unsterile phaco tubing.



**Figure 1:** (a) Four pieces of adhesive plaster cut according to the required size, along with cutting Phaco tubes (b) adhesive plaster after assembling the tube in between (c) the front surface of the adhesive plaster with the thread passed through the tubes (d) Back surface of the assembled OPT (e) Lateral out Patient Tarsorrhaphy (OPT) in a patient

**Table 1: The indications, size/site of the ED, complications, and the time of resolution**

Indication: Non healing ED due to	Age	Size of the ED	Site of the corneal ED	Resolution of pain at 1 week	Complications	Number of times OPT repeated	Time of resolution of ED in days	Comments
CCA	12 years	3x2.5 mm	Paracentral, inferior	Yes	Rashes developed in the upper lid	Twice	14 days	Discomfort for one week, OPT fell down at fifth day
Post cataract surgery	58 years	2.5x2 mm	Central	Yes	Nil	Once	7 days	-
Post retinal surgery	46 years	6x4 mm	Central	Yes	Nil	Thrice	Did not resolve	Mild discomfort was present through out
Seventh nerve palsy	52 years	4x3.5 mm	Paracentral inferior	Yes	Nil	Thrice	21 days	-
RCE following trauma	41 years	3x3.5 mm	Paracentral inferior	Yes	Nil	Twice	14 days	-
Exposure keratopathy	62 years	Diffuse	Paracentral and central	Yes	Nil	Thrice	21 days	-
Exposure keratopathy	78 years	Diffuse	Para central and central	Yes	Nil	Thrice	21 days	-

**Table 2: Comparing different non-surgical methods of tarsorrhaphy done in outpatient clinic**

Technique	Patching	Cyanoacrylate glue	Eyelid splints	Bandage contact lens	OPT
Insertion method	Simple	Simple	Simple	Simple	Simple
Closure	Total	Total	Partial	Nil	Partial
Cost	Cheap	Reasonable	Cheap	Reasonable	Cheapest
Eye examination	Difficult	Difficult	May be difficult	Easy	Easy
Time duration of eyelid closure	1-2 days	2-7 days	1-2 days	-	5-7 days
Repeatability/Reversibility	Yes	Not possible	Yes	Yes	Yes
Complications	Filamentary keratitis, infection	Temporary loss of eye lashes, corneal damage due to accidental spillage	Filamentary keratitis, infection	Infectious keratitis	Skin rashes, mild discomfort

**Figure 2:** (a-c) Images show healing of epithelial defect in a post-cataract surgery patient

The prerequisites are:

**Step 1:** Required length for both upper and lower lid and site of the corneal epithelial defect required to be closed is first examined.

**Step 2:** Four equal lengths of the adhesive plaster is cut with scissors for both lids according to the requirements in Step 1 [Fig. 1a].

**Step 3:** Phaco tubing is cut into small pieces of 1 cm in length for both lids [Fig. 1a].

**Step 4:** The thread is cut for a length of 10 cm and kept.

The procedure of assembling the tool includes sandwiching the cut phaco tube between two adhesive plasters [Fig. 1b] for both upper and lower lids, and then thread passed through both the phaco tubes [Fig. 1c and d]. Once the adhesive is ready for use, the patient is asked to close their eyes; lateral or medial skin over the upper and lower lids is stretched, and the adhesive plaster is stuck over it [Fig. 1e]. Finally, the thread is tied adequately to close the eyelids with knots [Fig. 1e]. The plaster size can be tailored and prepared according to the (lateral, medial, and central) patching area.

We have shared our experiences in Tables 1 and 2. It may not be appropriate in patients with facial spasms, large palpebral aperture, proptosis, and lid laxity. OPT would be a quick, safe, and cost-effective alternative future option to surgical tarsorrhaphy. Fig. 2 shows healing of the persistent epithelial defect following cataract surgery in a diabetic patient with OPT.

#### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

#### Conflicts of interest

There are no conflicts of interest.

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