INTRODUCTION

Sensory organs play significant roles in our daily lives. Not until one of them is totally or partially lost, is its real value fully appreciated. One of most commonly occurring loss of one of these organs is that of an eye. The loss of eye requires early replacement so that the patient may return to a normal life. The primary objective, in each case is to construct a prosthesis that will restore the defect, improve esthetics and thereby benefit the morale of the patient.

An ocular prosthesis is a simulation of human anatomy using prosthetic materials to create the illusion perfectly normal healthy eye.

The history of eye prosthesis begins with the use of 'ART eyes' in statues by Egyptians [1613-2494 BC]. Ambroise pare [1510-1590] first described the use of artificial eyes in fitting an eye socket [pioneer of modern artificial eyes]-fabricated eyes porcelain.

Ludwigs muller-uri [1830] glass eyes. II world war-Naval dental school [1943] tested the use of acrylic resin in fabricating ocular prosthesis.

Today three types of ocular prosthesis are used
1. Stock eyes
2. Stock eyes modified by various methods
3. Custom made eyes

Custom ocular prosthesis has many advantages
1. Close adaptation to the tissue bed
2. Better motility
3. Distributes pressure more equally thus reduces the incidence of ulceration.
4. Enduces tissue health by reducing the potential stagnation spaces at the prosthetic tissue interface [these voids collect mucous and act as potential source of infection].

CASE REPORT

A 63 year old male patient reported to our institution with the complaint of missing eye [right]. The patient gives history of accident for removal of his eye. The socket was inspected and a custom made eye prosthesis was decided to be fabricated for the patient.

STEPS
1. An irreversible hydrocolloid is used to take the preliminary impression of the eye socket. (fig 1)
2. The preliminary impression was poured with dental stone. (fig 2)
3. On the preliminary cast a wax sheet is adapted and a self polymerising acrylic resin is used to make a tray. A sheet of wax provides space for the final impression. (fig 2)
4. The self polymerising acrylic tray is removed from cast and wax spacer is removed.
5. In the centre of tray a hole similar to size of light body gun tip is made and multiple holes are made onto tray for removal of excess material which comes out during making final impression. (fig 3)(fig 4)(fig 6)
6. Final impression was made by vinyl siloxane light body. Light body is injected through the tip of gun containing light body. Now there are two surfaces of impression. Impression surface and the surface with the tray. (fig 7)
7. The final impression is poured with two pour technique. The first pour covers the surface other than impression surface and is in dental stone. (fig 8)
8. Grooves are cut on sides of first pour and separating medium is applied on the surface of cast. (fig 9)
9. A second pour covers the impression surface and is in die stone. (fig 10)
10. Thus we get impression surface on die stone pour.
11. The two pours are separated and the dental stone pour was perforated and placed on die stone pour with the help of grooves. (fig. 11, 12)
12. Molten carving wax was poured through the perforation onto the impression surface.
13. The wax try in was done into patient eye socket. (fig 13)
14. Then stock eye with matching iris with patient other eye was used. (fig 14)
15. The iris was taken from stock eye and incorporated in patient wax trial eye. (fig 15)
16. The trial eye should match contralateral eye during movements.
17. Finally the wax trial eye is invested, dewaxing, packing and curing is done. (fig 16, 17, 18, 19)
18. The final eye prosthesis is properly finished polished and inserted into patient eye. (fig 20)
19. The patient is instructed on insertion of prosthesis. He is told to raise the upper eye lid with his opposite hand, insert the prosthesis and manipulate the lower lid. He is encouraged to practice the insertion and removal before a mirror. He is told to remove the prosthesis once a day, if necessary wash it under slight warm water with a soft clean and mild soap. Never allow the prosthesis to come in contact with alcohol or solvents of any kind. The patient is cautioned not to allow the prosthesis to become scratched by carrying it in his pocket or purse. He is told to have the eye polished if it becomes scratched in any way.6

DISCUSSION
The indication for a custom made ocular prosthesis includes a postsurgical socket with a suitable tissue bed. The socket exhibits a healthy and intact conjunctival epithelium, deep fornices and taut eyelids. There may be occasions when the shrunken eyeball is left in situ, a condition known as phthisis bulbi. This allows some degree of limited movement of the ocular prosthesis.7

The custom made ocular prosthesis may be contraindicated when an undue change in socket volume has taken place. A loss of socket volume may arise from conditions such as anophthalmos, microophthalmos or tissue shrinkage due to noncompliance in the use of an ocular prosthesis by a growing child. Socket expansion, which uses prosthetic devices of progressively larger sizes over an extended period has demonstrated promising results in this situation.7

An excessive increase in socket volume may arise from postenucleation sequelae. These involve several characteristics features such as the presence of a deep superior fornix, superior lid ptosis, sagging of the inferior lid and lateral canthus. Other features include posterior and inferior migration of an existing ocular prosthesis, loss of attachment and migration of ocular implant. Surgical correction is needed to reduce excessive socket volume in these circumstances.7

The custom made ocular prosthesis is contraindicated in patients who have allergy to the acrylic. Allergy includes irritation, redness in socket, excessive secretions, swelling etc.6,10

There should be no sharp edges in the custom made prosthesis as this can be irritable, uncomfortable and can cause severe injury to the eye socket.

These custom made eye prosthesis have short life span of 6 months to 1 year. After one year it should be replaced. The main advantage of these prosthesis is esthetics. Extended use of these prosthesis, more than their life time may show discoloration in the prosthesis.

CONCLUSION
The procedures for fabricating the custom acrylic resin ocular prosthesis are similar to those performed by dentist and recommend themselves for his consideration as an added service to his patients.9

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Corresponding Address:
Dr. Pratik Gupta
Email: dr.pratikvarshney@gmail.com
LIST OF PHOTOGRAPHS

Figure 1 - Preliminary impression

Figure 2 - Preliminary cast

Figure 3 - Tray

Figure 4

Figure 5 - Tray with injection gun

Figure 6 - Tray in patient's eye

Figure 7 - Final impression

Figure 8 - First pour

Figure 9 - Grooves in first pour cast

Figure 10 - Second pour

Figure 11

Figure 12 - Split casts

Figure 13 - Wax pattern try-in

Figure 14 - Stock eye from which iris is removed

Figure 15 - Removed iris incorporated in wax pattern

Figure 16 - Wax pattern with iris ready for curing

Figure 17 -

Figure 18

Figure 19

Figure 20 - Final prosthesis inserted into the patient's eye socket