

# An Silicone Auricular Prosthesis Along with Retentive Aids- A Case Report

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## ABSTRACT

Facial tissue loss presents with multiple functional and psychological problems. Its rehabilitation can improve the physical, mental and social well being of the patient. In conditions where surgical corrections are not favourable, the prosthetic approach to rehabilitate the missing structures can solve the problems, with added advantages of having complete control over colour and morphological outcome to match the surrounding skin and the counter lateral part. This case report describes the rehabilitation of a patient with the right auricular defect who was treated with a silicon auricular prosthesis and few ornaments were used as the retentive aids.

**Keywords:** Auricular prosthesis, Retention aids, Ear fabrication

## CASE REPORT

A 40-year-old lady presented with loss of right ear with history of trauma. On clinical examination there was partial ear tissue which had cartilaginous rigidity. She was aware of the surgical reconstruction procedures but did not consider those procedures. Hence, she was treated with silicone prosthesis. Ear ring which happens to be an essential ornament in an Indian lady was used for retention along with the remaining cartilage [Table/Fig-1].

## DISCUSSION

### Fabrication of the prosthesis

The total ear reconstruction procedure attempts to reconstruct a near-normal external ear, but the patient's health may preclude the multiple surgical procedures required for autologous ear reconstruction or the patient may simply opt not to have additional surgery. So, prosthetic rehabilitation is a viable alternative to surgical reconstruction [1]. Good alternative is to develop an auricular prosthesis with a suitable material. Silicone is the material for choice for facial prosthesis because of its flexibility and life like appearance. In this case, RTV silicone (MP Sai Enterprise) was used. Intrinsic stains were used for the prosthesis coloration as these are more colour stable and provided better aesthetic results. Accelerated ageing studies and colour evaluation studies using the reflection spectrophotometer analysis have also showed that intrinsic stains undergo considerably less amount of colour alteration as compared to extrinsic colouration methods. Furthermore, inorganic stains

proved to be more colour stable as compared to organic stains derived from plants and other natural sources [2]. The history of auricular prosthesis dates back to 1510 when Ambroise Pare constructed the same using papier-mache or leather, and was retained by means of a metal band. The success of an auricular restoration depends greatly upon various retentive aids [3]. The retention can be achieved by various means such as mechanical (Eyeglass earpiece, Acrylic buttons, Magnets, Retentive clips, Cast clasps), Osseo integrated implants and tissue adhesives. Parel SM 1980 studied about the Diminishing dependence on adhesive for retention of facial prostheses and concluded that some patients develop allergic or irritational responses to adhesive. Some aromatic base adhesives may curl thin margins of prosthesis, making aesthetic placement difficult. Even routine adhesive removal may damage external pigmentation [4].

Impression was made using alginate for both the ears as the normal ear was used to form a cast to guide the wax prototype [Table/Fig-2]. Pattern was fabricated by sculpting wax using mirror image the patients' anatomical ear as reference. Once the shade matching was completed, the material was packed and cured, for 48h, at room temperature. Extrinsic colouration was added to refine the colour in the final prosthesis at the required area. In this case there was partial ear tissue which had cartilaginous rigidity to support the weight of the prosthesis. By engaging various convolutions of the remaining tissue, the ear prosthesis was retained with some degree of security along with which the jewellery such as ear ring was used



[Table/Fig-1]: Pre treatment view



[Table/Fig-2]: Wax pattern



[Table/Fig-3]: Silicone prosthesis with retentive ornaments



[Table/Fig-4]: Post treatment view

in the lobule region and a stiff ear accessory which had loop to go into the ear ring on one end and a hook on another end to hold the hair. The portion of the stiff accessory which passed over the silicone prosthesis at the superior portion of the pinna, to hold the hair and was fixed to the small hook in the prosthesis [Table/Fig-3,4].

The patient was instructed to be careful when removing the prosthesis so that the thin margins do not tear, not to wear the prosthesis during sleep so that air can circulate to maintain the skin health. If worn continuously, the dark moist environment underneath the prosthesis is ripe for bacterial and fungal growth, leading to inflammation and infection. It should be stored away from sunlight to prevent discoloration and degradation of the prosthetic material.

## CONCLUSION

surgical reconstruction of large auricular defects involving significant loss of cartilage requires staged flap procedures. For patients who

refuse further surgery or who otherwise are not good candidates for reconstruction because of underlying medical problems or the need to have the surgical site monitored for recurrence of a particularly aggressive malignancy, the silicone auricular prosthesis should be considered.

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