

## Nasal Prosthesis –A Case Report

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**Abstract:** *The quality of life after the rhinectomy is severely compromised if an efficient surgical reconstruction or a prosthetic device is not provided. Sometimes the results of the plastic surgery are not sufficient to restore the entire volume of the nose .In these patients, a facial prosthesis is aesthetic and provides the respiratory function. Three solutions exist to retain the prosthesis: a mechanically supported prosthesis, an adhesive prosthesis, or a prosthesis anchored on craniofacial implants. In this case report a 64 year male reported to Dept. of prosthodontics GDC Kozhikode for reconstruction of nose. His nose was lost following a RTA. Rehabilitation of patient was done by mechanically supported prosthesis using spectacles. Patient's aesthetics and respiratory function has been significantly improved following prosthetic rehabilitation.*

**Keywords:** *nasal prosthesis, silicone, spectacles*

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### I. Introduction

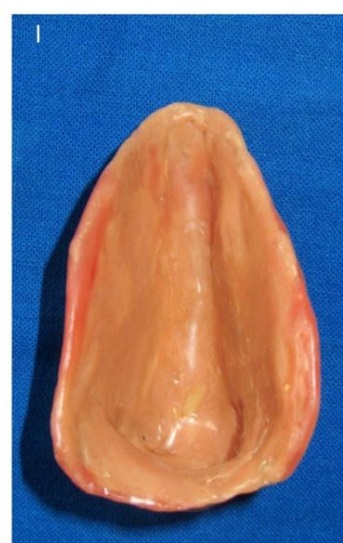
Facial prosthesis demands a seamless concord of art and science for attainment of perfection. The texture, form and colouration of the prosthesis should closely resemble the patients missing structure that an observer should find it really hard to discern between the two. The quest for identifying the best means to attain such resemblance has made prosthodontist to try a vast array of materials for prosthesis fabrication.

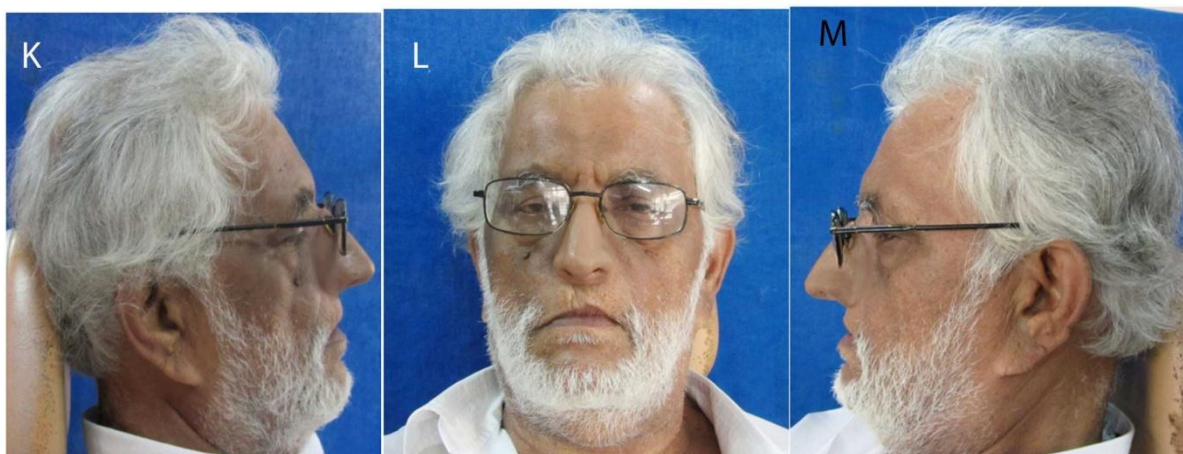
Facial defects can result from trauma, surgical resections, congenital anomalies, acquired infections like leishmaniasis and burns.<sup>1</sup> The majority of nasal defects are secondary to treatment of neoplasm and defects due to trauma.<sup>1, 2</sup> Correction and rehabilitation of such defects are always challenging and prosthodontic results are limited by the materials used in the construction and fabrication of facial prostheses. Acrylic resins, acrylic copolymers, vinyl polymers, polyurethane elastomers and silicone elastomers can be used. But silicones are the most widely used materials for facial restorations because of their good surface texture and hardness. Long-term success of facial prosthesis mainly depends on retention. Retention of the facial prosthesis depends on providing a better edge integrity and conserving the position of the prosthesis during every movement of the head and mimic muscles.<sup>3</sup> Anatomic undercuts, secondary mechanical factors, skin adhesives, and implants (Magnets or Osteointegrated implant retained titanium screws) are reported to provide sufficient retention.<sup>4, 5</sup> However, when suitable conditions are provided, anatomic retention is more advantageous than any other.

### II. Case report

A 64 year old male reported in the Dept. of Prosthodontics, GDC kozhikode for replacement of nose which was lost in an accident. He was using an acrylic prosthesis for past 10 yrs which got fractured recently. The defect was found to extending from one third of nasal bone and it covered lateral nasal cartilages, alar cartilage, septal cartilage and was extending up to anterior nasal spine of maxilla. An impression was taken from the defect together with the adjacent tissue, using an irreversible hydrocolloid impression material and a type IV dental stone cast was obtained from the defect area and restored using wax. A wax nose cast was also created, taking into account the patient's general appearance. The prepared wax cast was then adapted to the stone cast. The whole morphology of the cast was corrected according to visual knowledge, older photographs of the patient, and the patient's own descriptions of his preoperative appearance.

After the completion of the wax cast corrections, (ie, tissue texture and relevant contours), the same procedures were repeated on the face of the patient. In order to obtain replicas of all the tissue undercuts, the defect area was filled with wax and this wax cast was placed into a flask. After the complete removal of wax, the silicone material, which was colored intrinsically, was then bulkfilled, and the material was processed according to the manufacturer's directions. After processing, the prosthesis was removed from the mold, the final corrections were made, and the silicon prosthesis was then adapted to the defect area by using eye glasses. The use of eye glasses enhanced both retention and appearance.





*A,B,C-Preoperative frontal, left lateral ,right lateral*

*D-Boxing of face for making impression*

*E-Impression by irreversible hydrocolloid*

*F-Base made with plaster of paris*

*G-Cast prepared by Type IV stone*

*H-Nose carved in model wax*

*I-Intaglio surface of wax model*

*J-Finished silicone prosthesis attached to spectacles*

*K,L,M-Post operative right lateral ,frontal ,left lateral*

### III. Discussion

Traumatic injury following accidents often leaves behind large defects in esthetically and functionally important areas over the face. A large facial defect can prevent a patient from returning to normal daily activities.<sup>6</sup> Many such patients have been rehabilitated successfully with prosthetic restorations.<sup>7</sup> For large midfacial defects, secondary mechanical factors, skin adhesives, and implants can provide retention and for small midfacial defects, anatomic undercuts are sufficient for maintaining retention of a maxillofacial prosthesis. In this case report, anatomic undercuts and eye glasses were used for retention and silicon material was used for prosthesis fabrication together with intrinsic coloring, as it seemed to be adequate to maintain both the texture and the appearance of natural tissues<sup>8,9,10</sup>. Surface details and characteristics can be modified using intrinsic and extrinsic coloration. In this study, intrinsic coloration was preferred as it was permanent and esthetically superior.

### IV. Conclusion

In our case report the patient had lost his nose in a road traffic accident and was using an acrylic prosthetic nose which got fractured recently. Eye glasses and anatomic undercuts were used for retention of the silicon prosthesis. It was more acceptable for the patient as it was cheap and comparatively light weighted.

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