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# Groper's Appliance: Fixed Appliance For An Anterior Teeth

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## ARTICLE INFORMATION

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## ABSTRACT

Aesthetic rehabilitation for school going children who lost their teeth due to trauma or decayed teeth was the common problem seen in pediatric patients. Treatment for this kind of cases can be given with removable or fixed appliance according to the parent's desire. This article discussed about a fixed type of an anterior esthetic appliance placement, their importance to the children and contraindication of the appliance. The most important and decisive factor for placing anterior esthetic appliance is parental wish and their desire.

**Key words:** Pediatric, teeth, esthetic, childhood caries, mastication

## INTRODUCTION

Aesthetic rehabilitation for pre-schooler who has lost their multiple teeth due to trauma or Early Childhood Caries (ECC) are the most common problems which are seen by the pediatric dentist. The consequences of this situation were decreased efficiency in mastication, disturbances in speech and especially esthetics<sup>1</sup>. One of the most valid reasons for placing missing anterior teeth is to give pleasing appearance and thus presuming for normal psychological development because as the children grows they continually develop a conceptual image of their bodies<sup>2</sup>. The main objective for this appliance was to help in space maintenance, masticatory function, speech and esthetic appearance.

## CASE REPORT

A four-year-old girl had come to the Department of Pedodontics and Preventive Dentistry complaining about decayed upper anterior teeth. On examination presence of root stump in relation to 51 and 61 and dental caries in relation to 52 and 53 were found (Fig. 1). After taking history it was revealed that fracture of crown in 51 and 61 are due to long term caries. The parents were concerned regarding the anterior aesthetics and wanted to restore it. The treatment plan was decided to make an anterior aesthetic fixed appliance for restoring the missing anterior teeth. Firstly, the maxillary primary second molars (55 and 65) were banded (band size: 0.005"×0.180") and alginate impressions were taken for the upper and lower arches. There are certain contradictions for this appliance such as mentally challenged children, seizure disorders, immune-compromised children and deep-bite, over-jet, or anterior cross bite. However, the patient did not suffer from any of this condition. Casts were poured with dental stone. A stainless steel wire (1.00 mm) framework was made, extending from one band to the

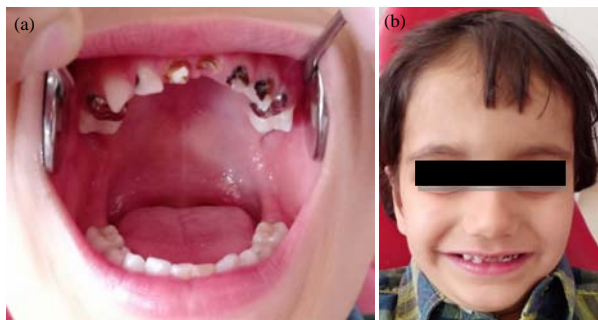


Fig. 1(a,b): Pre-operative

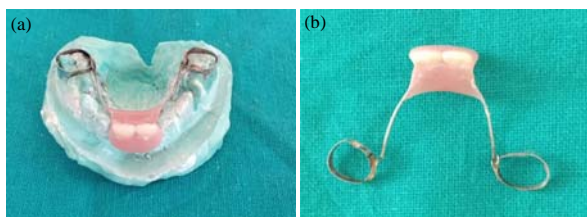


Fig. 2(a,b): Fabrication of acrylic plate and teeth



Fig. 3: The appliance (Intra-oral view)

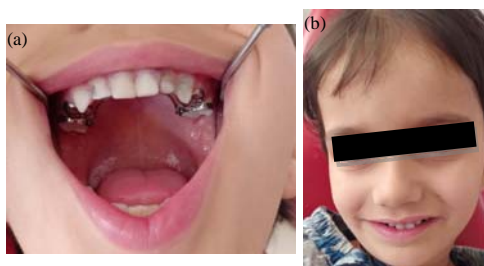


Fig. 4(a,b): The appliance (Facial view)

other band. The ends of the wire were then soldered to the corresponding molar bands of the upper teeth. Acrylic resin teeth were fabricated and trimmed according to the primary incisors and compared with the adjacent teeth. Wax-up trial was done and occlusion was checked with lower teeth. Later separating media was applied in the cast and then denture base was fabricated using cold cure acrylic (Fig. 2). The appliance was then removed from the cast and intra-oral trial

was done (Fig. 3). Later, trimming and polishing of the appliance was done according to its requirement and appliance was cemented with glass ionomer luting cement via the molar bands on 55 and 65 (Fig. 4).

## DISCUSSION

There are certain factors related to loss of anterior teeth like tipping of adjacent teeth, supra-eruption of opposite teeth, masticatory and speech problems and lingual dysfunction<sup>3</sup>. In a crowded dentition, if one or more incisors were lost, there may be some rearrangement of the space between the remaining incisors, but no space maintenance was required if the loss occurs after the eruption of the primary maxillary canines<sup>4</sup>. Under the age of 5 years, children with the absence of anterior teeth, are sometimes mocked by the other children and gets affected socially, due to lack of limited exposure unlike school going children. But some children who goes to child-care or preschool are more aware of their appearance and when they starts going to school, they become more comfortable and gets adjusted with the other children those with the identical appearance<sup>5</sup>. Studies had conducted and it was observed that those children who used dentures from childhood did not exhibit any articulation errors and it was found to be associated with dentition. They had concluded that better articulation skills have been found in patients with prosthetic dental appliances those who used for minimum of 2 years<sup>6</sup>. There is no evidence of oral growth restriction after using prosthetic appliances at present<sup>7</sup>. There were certain points which should be discussed like its uses and advantages with the parents for replacement of primary incisors and most important factor is parental desire and wish for the placement of appliance<sup>8</sup>.

## CONCLUSION

It was concluded that this appliance is a simple and easy placement technique and almost always considered to be an elective appliance. The placement of the appliances is usually done by the wishes of the parent. This appliance gives a huge psychological benefit for the child. Parents and patient were given oral hygiene instruction regarding the appliance and asked to visit after every 3 months for checkup and to see the eruption of first permanent molars.

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