

**AESTHETIC REHABILITATION OF PRIMARY MAXILLARY ANTERIOR TEETH: A  
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**ABSTRACT**

Aesthetic rehabilitation of traumatic/cariogenic tooth loss in toddlers could be achieved by either removable or fixed appliance as per parents' desire. Here we are presenting a case of a three-year child who had lost his primary maxillary anterior teeth due to caries (extraction was done prior to reporting in department). A fixed appliance was fabricated with a specially designed wire spur and attachment using maxillary second primary molar for support to facilitate acrylization of anterior teeth. The spur basically enhanced the surface area to facilitate better retention of the acrylic. The patient was followed up in respective interval of 72 hours, 3 months and every 3 months until the eruption of the maxillary permanent anterior teeth. Such fixed appliance could be a promising option for paediatric aesthetic rehabilitation along with psychological benefit to the child.

**KEYWORDS:** Aesthetic rehabilitation, fixed appliance, primary teeth.**INTRODUCTON**

Aesthetic correction of the maxillary anterior dentition is one of the biggest issues in paediatric dentistry. Due to the lack of cooperation frequently displayed by young children, Pediatric dentists are frequently presented with both a restorative and behaviour control dilemma. These patients visit the dentist quite often between the ages of two and three with primary anterior tooth decay, which is frequently referred to as nursing bottle decay.<sup>[1]</sup>

For a successful outcome, parental desire is the first and most important consideration when installing an anterior aesthetic appliance. Very few evidence is available in support of early loss of maxillary incisors which have had any major, long-lasting impact on the growth and development of the kid, despite the fact that space maintenance, masticatory function, speech development, and tongue habits may be of some significance.<sup>[1]</sup>

Premature tooth loss in the anterior incisal segment typically results in a lingual collapse of the anterior teeth as well as minimal space loss and a distolingual inclination of the teeth. In addition to this collapse, the space can close or the midline can shift.<sup>[2]</sup>

Hence this paper describes a fixed aesthetic appliance for anterior teeth rehabilitation and the factors to be taken into account when determining where, when, why and how to place it.

**CASE REPORT**

A 3 year old male patient reported to the Dept. of Pediatric & Preventive Dentistry with his parents having a chief complaint of missing upper anterior teeth and giving a history of extraction of all four anterior teeth two years ago. (Fig 1) Since the child was being ridiculed in school, the parents requested any possible way of replacing his teeth since it was affecting his self-esteem.

On clinical examination it was found that he had multiple carious teeth. The occlusion of the patient was evaluated, which looked satisfactory.

On radiographic examination, it was seen multiple teeth were pulpally involved.

A treatment plan was devised which included pulp therapy of the affected teeth along with aesthetic rehabilitation of the anterior teeth.

### FABRICATION OF APPLIANCE

After successful completion of pulp therapy, bilateral banding was done on the maxillary primary second molars and the impression was recorded in relation to upper and lower arch and casts were made with the molar bands in position. A wire spur was fabricated with 1mm stainless steel wire (Fig 2) after which a 0.6mm stainless steel wire was soldered to the main wire spur over alveolar ridge for extra retention (Fig 3). The entire wire spur was then soldered to the bands bilaterally. Resin teeth were then acrylized to the wire spur. After finishing and polishing, the aesthetic space maintainer was then cemented to the maxillary primary molars bilaterally with Type 1 GIC (Fig 4) and checked for occlusion (Fig 5).

The patient was recalled after 72hrs, 3months and advised to come every 6months until the eruption of the anterior teeth. A follow up was done after 3 months (Fig 6).

Both the patient and his parents were overwhelmed by the treatment as it was a major psychological boost for the child. He was happy to go back to school and also a great change was observed in his behavior.



**Fig 1: First visit of the child.**



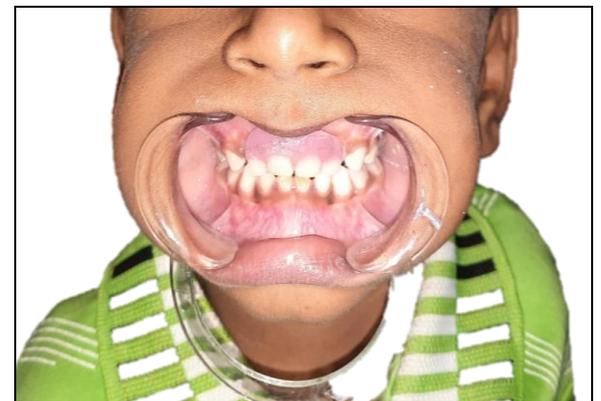
**Fig 2: Wire spur made with 1mm stainless steel wire.**



**Fig 3: 0.6 mm wire for extra retention.**



**Fig 4: After cementation of the appliance.**



**Fig 5: Occlusion checked.**



**Fig 6: After 3 months follow up.**

## DISCUSSION

Tooth loss has its effects on a child's psychological, social, functional, and economical well-being.<sup>[3]</sup>

The general health effects of tooth loss include eating disorders, weight loss, and communication and appearance-related social handicaps. Patients experience substantial emotional and confidence repercussions as well as difficulty accepting tooth loss.<sup>[4]</sup>

According to Strauss and Hunt, dental illness may affect a person's ability to enjoy life, have meaningful relationships, succeed at work, and have a positive self-image.<sup>[5]</sup>

The premature loss of primary anterior teeth in deciduous arches is a contentious issue in the literature, in part because there is a dearth of convincing scientific evidence regarding the impacts and their magnitudes on the arch perimeter space.<sup>[6]</sup>

When it happens before the eruption of primary canines, the premature loss of upper and/or lower primary incisors may result in anterior space loss. Despite teeth sliding into the space left by a missing tooth, some writers claim that the intercanine spacing would maintain dental arch stability and prevent occlusal injury.<sup>[7]</sup>

Riekman and Badrawy's study reported that the loss of primary anterior teeth before the age of 3 years resulted in speech problems.<sup>[8]</sup> However, contradictory to their study Gable et al. found that early loss of incisors had no long-term effects on speech.<sup>[9]</sup>

Waggoner and Kupietzky, 2001, stated that changes in arch length with tooth migration generally occurred after the eruption of the first permanent molar which coincides with the eruption of the central incisors, at which time the anterior appliance can be removed.<sup>[1]</sup>

The appliance fabricated for this case has minimal palatal coverage and also a better anterior fit, in turn

having an advantage over other appliances used for aesthetic rehabilitation.

Since it is a very simple design it can be a very good alternative for maintaining aesthetics in children with prematurely missing anterior teeth.

Only drawback seen was children with certain medical conditions such as epilepsy, mental disorder child or children who cannot maintain oral hygiene or have immunocompromised condition are not good candidates for this appliance and should not be advised with the appliance.

By properly educating and motivating the child and the parents, limitations like long-term follow-up, inappropriate oral hygiene maintenance, and frequent breakage can be reduced.<sup>[10]</sup>

## CONCLUSION

The premature loss of a primary anterior tooth is an important factor behind the loss of confidence in children and early intervention can prevent a child from psychological trauma. Restoration of anterior esthetics and function with these appliances gave a huge psychological boost to both the child and the parents.

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