

**Case Report**

## Sudipta Kar's multi utility habit breaking appliance

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**Abstract:** Habit is defined as a fixed practice produced by a constant repetition of acts. Oral habit may produce detrimental effect on oral and perioral structures if not intervened early. So oral habits are considered as the major etiological factors in the development of malocclusion. This case report describes a removable habit breaking appliance which is easy to construct and affordable for our patients. It is most effective in correction of thumb sucking and tongue thrusting.

**Keywords:** habit, thumb sucking, tongue thrusting.

### INTRODUCTION

Repetitive behaviors are common in the infantile period. When an acquired tendency is fixed by frequent repetition then this constant practice is called habit. Often habit affects developing orofacial structures then it is considered as deleterious oral habit. Frequency, duration, direction, and intensity of habits are responsible for deformation of stomatognathic system. Deformation may occur in various ways like interference of normal tooth position, alteration of bone growth, and cross bites, changes in the eruptive orientation of tooth or it may be anterior or posterior open bite. Tongue thrusting and thumb sucking is the most commonly seen oral habits specially in pediatric patient. The habit of digit sucking is considered to be performed constantly by an individual for psychological consolation and oral satisfaction. Thumb sucking may cause constriction of the maxilla retroclination of the mandibular incisors, deep palatal vault, increased overjet anterior open bite and proclination of maxillary anteriors [1]. This habit is considered to be normal up to the age of 3-4 years [2, 3]. On the other hand tongue thrusting is a human behavioral pattern in which the tongue often protrudes through the anterior teeth during swallowing, speech and even at rest [4]. Sometimes reminder therapy is also helpful. Tongue cribs, rakes or any kind of removable or fixed habit breaking appliances are considered boon to affected pediatric population. To restrain the tongue in tongue thrusting habit often beads placed in the rugae region and it produces predictable result [5].

Preventive Dentistry, of our hospital with a chief complaint of thumb sucking habit since the child was 9 months old (Fig. 1). The habit was only nocturnal, and it continued till the age of 3 years. His parents also reported that he had gradually increasing malaligned spaced ugly looking teeth and facial profile. However from the last 2½ years the child had been reported to continue the habit of thumb sucking whenever he was idle during the daytime. On examination, the child was in primary dentition stage and was free of any carious lesion and proclined upper anteriors with open bite was detected because of the thumb sucking habit. Surprisingly the child was also developed tongue thrusting habit also. So it was a challenge to pediatric dental surgeon to control both of habits and correct his facial profile. Fortunately the child was very much cooperative in nature. He was advised to wear an innovative removable habit breaking appliance (Fig. 2). In this appliance the metal crib is replaced by acrylic beads. During fabrication we first did the wire bending just like simple how lays appliance. Then we did a modification in the palatal acrylic base by incorporating three metal tags in it. We then had covered the whole metal tags with clear acrylic to prevent any injudicious harm to perioral structures. Then we finished and polished the appliance and the appliance was ready for intraoral insertion (Fig. 3-4).

### CASE REPORT

A 5½-year-old boy accompanied by his parents reported to the Department of Pedodontics and



**Fig-1: Profile photograph of the patient**



**Fig-2: Fabricated multi utility appliance**



**Fig-3: Intra oral insertion**



**Fig-4: Happy smile**

## DISCUSSION

A habit is considered as a constant or intermittent repetitive action being done automatically by an individual. Repetitive behaviours are commonly observed in infantile period and most of them start and finishes spontaneously. One of the most common repetitive behaviours in infantile period is hand sucking [6]. It is naturally developed in 89% of infants in the 2<sup>nd</sup> month and in 100% of them in the 1<sup>st</sup> year of chronological age. The term digit sucking is synonymous with finger sucking or thumb sucking. It is defined as the placement of the thumb or one or more fingers in various depths into the oral cavity [7]. According to various dental literatures the prevalence of digit sucking habit varies among different investigators from 1.7% to 47% in children [8]. The habit may continue through primary, mixed and permanent dentition period. If the habit continues into the mixed dentition, a malocclusion may develop. The adverse effect of digit-sucking habit can be seen in the form of, development of anterior open bite, Class II malocclusion and proclined and flared maxillary and/or mandibular incisors. The tongue thrusting habit is also detrimental to perioral structures. It also causes open bite formation. Cause of tongue thrusting may be anatomic like macroglossia or habitual. When tongue thrusting and finger sucking habits are persisting beyond the age of 4-5 years it is considered as abnormal and deleterious [9]. Physical restrainers are often useful in controlling oral habits [10]. If the cause is anatomic then surgical correction of tongue is needed but if the cause is habitual then there is urgent need of habit breaking appliance. Modern era is the era of multi utility instrument like cell phone, calling tablet, multifunctional watches etc. these influence me to design a multi utility appliance for our beloved pediatric patients. This simple instrument can prevent both tongue thrusting and thumb sucking habit effectively. Fabrication of the appliance is also very much simple and cost effective. This appliance creates a firm and effective barrier for both thumb and tongue. The only disadvantage of this appliance is it needs patient compliance. It can be easily readjusted and modified according to the need of the patient.

## CONCLUSION

This appliance is considered as multi utility, cost effective, user-friendly and easy to wear appliance useful for interceptive pediatric orthodontic purpose.

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