

Management of Thumb Sucking by RURS-Elbow Guard: Report of Two Cases

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ABSTRACT

Finger-sucking habit, or nonnutritive sucking, usually terminates spontaneously in childhood. If the habit continues, it may affect dental occlusion as well as lead to alteration of finger shape. When the habit is broken, disturbances of digital growth and dental occlusion will resolve spontaneously. The present article reports two cases of thumb sucking habit successfully ceased by RURS-Elbow guard.

KEYWORDS: RURS elbow guard, Thumb sucking

INTRODUCTION

Finger-sucking habit, or nonnutritive sucking, usually terminates spontaneously in childhood.¹ It is considered to be the most prevalent of oral habits, ranges from 13% to 100% at the time of infancy. With the increase in age, thumb/finger-sucking habit gradually decreases almost by 3.5 to 4 years but some may still continue to adulthood.² The continuation of oral habits is basically due to the physical stimuli. However other stimuli like hunger, hyperactivity pleasure and also emotional stimuli such as boredom, stress, and sadness may lead to continuation of such habits.¹ An acute increase in the child's level of stress or anxiety can also be a reason for continuation of the sucking habit.³

Franco Varas in a study showed a significant increase in malocclusion in the primary dentition of children who prolonged the habit of digit sucking.⁴ It cannot only cause undesirable effects on the dentition but can even affect the bone of the anterior part of the mandible and also deform the maxillary arch or palate or both. These dentofacial changes are usually temporary if these deleterious oral habits are discontinued as early as possible. Malocclusion may occur if the habit is not discontinued even after the age of 6 years.⁴ This article presents a report of two cases of children with primary dentition along with thumb sucking habit. In order to resist the children from practicing the habit, a unique appliance developed by Shetty et al. termed as "RURS' elbow guard," was successfully used.⁵

CASE REPORT

Case 1: A 4-year-old boy accompanied by his mother

reported to the Department of Pedodontics and Preventive Dentistry with a chief complaint of digit sucking during sleep and watching TV. Parents reported history of active digit sucking by the child since childhood. Child's mother revealed that he was unable to stop the habit even after repeated motivation from them. Extra oral examination revealed chapped and short fingernail which was exceptionally clean i.e. a classic clean dishpan thumb deformity. Roughened callus was present on the superior aspect of the thumb (Fig.1). Lips were competent both at rest and during swallowing. Patient had apparently symmetrical face with a straight profile and mesomorphic facial pattern. Intraoral examination revealed normal size shape and position of tongue. Mesial step molar relation was present and interdental and primate spaces were absent.



Figure 1: Keratinization and callus formation on the right thumb.

The child was counseled in the same visit regarding the deleterious effect of digit-sucking habit on dental

How to cite this article:

Shetty RM, Shetty M, Shetty NS, Deoghare A, Goyal A. Management of Thumb Sucking by RURS-Elbow Guard: Report of Two Cases. Int J Dent Med Res 2015;1(5):116-118.

occlusion, facial esthetics and he was self-motivated to stop the habit. However, he expressed inability to stop the habit. Then it was decided to place an RURS elbow guard to stop the habit as it can restrict the thumb from reaching the mouth.

Fabrication of RURS Elbow Guard: The elbow guard was fabricated by the technique given by Shetty et al. (2010).¹ An impression of the elbow was made with vinyl polysiloxane putty impression material (Fig.2) and a cast was obtained. On the cast two layers of modelling wax were adapted, which served as a spacer. Self-cure acrylic was used to fabricate acrylic elbow guard. The spacer was removed and was replaced by a layer of sponge for cushioning and to allow limited movements of the elbow. A cloth with velcro strap was stitched over the acrylic elbow guard.



Figure 2: Impression making of the elbow using vinyl polysiloxane putty impression material

The appliance was then delivered to the patient (Fig.3). It allowed some movement of the elbow but it did not allow the thumb to reach the mouth. The child was comfortable with the RURS' elbow guard. Regular follow up was done and the parents reported the habit was stopped within 5 months. However the elbow guard was told to be used for another 2 months as a retention period.



Figure 3: RURS-Elbow Guard delivered

Case 2: A 3-year-old girl accompanied by his mother reported to the Department of Pedodontics and Preventive Dentistry with a chief complaint of digit sucking. The patient was too young to give an intraoral habit breaking appliance, so it was decided to give RURS elbow guard. The impression of elbow was made and RURS elbow guard was fabricated and delivered (Fig. 4). The patient

was asked to wear the appliance for minimum 10 hrs daily. Regular follow up was done every month till the habit was terminated. The habit of the child was ceased in 9 months including two months of retention period.



Figure 4: RURS-Elbow Guard preventing the child from thumb sucking

DISCUSSION

Children with digit sucking habit are routinely managed by age appropriate counselling, positive reinforcement, digital reminders and intra oral appliance therapy. Some of these treatment modalities have reported limitations and disadvantages.⁵

Various treatment modalities are available and mentioned in literature, a bitter and sour solution like quinine, asafetida, pepper, castor oil, etc. usually has a limited effect. New anti-thumb sucking solutions like femite and thumb-up are also being marketed but they also showed moderate success.⁶ Application of adhesive tape carries the risk of reducing blood circulation and reported to cause infection or sweating.⁷ Although long sleeve night gown makes it difficult for the child to suck but at the same time it increases the child's frustration and wakefulness.⁸ Appliance therapy also have certain limitations. Use of fixed habit breaking appliances might result in decalcification of enamel, thus increasing the susceptibility for dental caries and gingival inflammation as well. The success of treatment by removable appliances depends on patient cooperation. It also affects the speech and pronunciation.^{6,8}

In the cases presented the RURS elbow guard was given instead of instead of intraoral habit breaking appliance because making impression of elbow was easy and children accepted it as a stylish appliance. The patients abandoned the habit in a short time as the appliance prevented the pleasure of sucking and, did not begin to suck or bite the thumb or finger of the other hand. The parents of the children were satisfied as the appliance did not hamper routine activities. It had to be removed only during eating.

CONCLUSION

RURS elbow guard proved to be an effective alternative treatment for correction of thumb sucking habit even in the primary dentition. It is easy to fabricate and can be

used effectively in young patients where other treatment modalities are difficult to render.

REFERENCES

1. Bengi AO, Karacay S, Guven G. A unique treatment of finger-sucking habit in children with mental retardation: Report of 2 cases. *Quintessence Int.* 2007; 38(3):e158-e163.
2. Punithavathy, John B, Stalin. Tiny tots and thumb sucking. *J Ind Aca Dent Spec.* 2010; 1(2):5-8.
3. Johnson ED, Larson BE. Thumb-sucking: Literature review. *ASDC J Dent Child.* 1993; 60(4):385-391.
4. Varas FV, Gil GB. Pacifier sucking habit and associated dental changes. Importance of early diagnosis. *An Pediatr. (Barc)* 2011; 77(6): 374-380.
5. Shetty RM, Dixit U, Hegde R, Shivprakash PK. RURS elbow guard: An innovative treatment of the thumb-sucking habit in a child with Hurler's syndrome. *J Indian Soc Pedod Prevent Dent.* 2010;28(3)227-233.
6. Alemran SE. A new method in reminder therapy technique for ceasing digit sucking habit in children. *J Clin Pediatr Dent.* 2000; 24(4):261-3.
7. Benjamin LS. The beginning of thumb sucking. *Child Dev.* 1967; 38(4):1065-78.
8. Morley M. Management of non-nutritive or digit sucking habits in children. A practical approach. *J Can Dent Assoc.* 1994;60(11):969-71.

Source of Support: Nil
Conflict of Interest: Nil