

“CLEAR CRIB” - AN ADJUNCT TO HABIT BREAKING APPLIANCE

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Abstract: Orthodontic treatment aims towards treating the malocclusion by primarily eliminating the underlying etiology. Habits like tongue thrusting, thumb sucking are common etiologic factors for malocclusion. The major issue to dental practitioners treating patients of any group is compliance with habit breaking appliance. In this article we present a thermoformed “clear crib” appliance which is an adjunct to habit breaking appliance. This appliance increases patient compliance, is easy to fabricate and is cost effective.

Key words: Thumb sucking, Tongue thrusting, Habit breaking, habit breaking appliance, clear crib

Introduction

“We are just beginning to realize how common and varied are the vicious habits of lips and tongue, how powerful and persistent they are in causing and maintaining malocclusion, how difficult they are to overcome, and how hopeless is success in treatment unless they are overcome.”^[1]

In recent years, the tongue thrust problems and the resultant oral manifestations have come to the forefront of the progressive, clinical orthodontists’ attention.^[2] There is much evidence to suggest that unusual function of the soft tissues in general, and the tongue in particular, are related to malocclusion. Malocclusion is frequently associated with unusual form

or function of the soft tissues which may range from a simple sucking habit to a ‘full fan’ tongue thrust with only the posterior molars in contact. [3]

Many interceptive methods are advised in literature for such habits. [4] But considering the age of the patient, lack of education and awareness about the deleterious effects of such habits on growth has made it difficult to motivate the parents for undertaking the habit breaking therapy with existing appliances⁵. In attempt to resolve the same problem a thermoformed habit breaking appliance is fabricated which has a better clinical acceptance compared to the conventional stainless steel spikes and cribs. The basic design and mode of action remains similar to the conventional thumb crib appliance, while increasing the acceptance of the therapy. It is even economic for the patients.

Fabrication

The crib is fabricated from 1.5mm thermoformed acrylic sheet.

- Initially vertical spikes are fabricated in the maxillary cast at the desired position using 0.036” stainless steel wire. The wire is then fixed to the cast with self-cure acrylic. Separating media is not applied prior so that the wire and acrylic component sticks to the cast and does not get incorporated in the appliance (Fig. 1).



Fig. 1. Vertical spikes are fabricated in the maxillary cast at the desired position and fixed to the cast with self-cure acrylic

- 1.5 mm thick thermoformed acrylic sheet is molded on this cast using vacuum forming machine (Fig. 2).



Fig. 2. 1.5 mm thick thermoform acrylic sheet is molded on this cast

- The appliance is then removed from the cast. The excess is cut off and margins trimmed to cover 1 mm of the gingival margin (Fig. 3).



Fig. 3. The excess is cut off and margins trimmed to cover 1 mm of the gingival margin.

- Final appliance is similar to an Essix/clear retainer with erupted molds of the spikes (Fig. 4).



Fig. 4 final appliance is similar to an Essix/clear retainer with erupted molds of the spikes

- To increase the retention of the appliance, buttons could be added on to the permanent molars and canines before making the impression.

Clinical Advantages

The habit breaking appliance have an unaesthetic appearance due to the wire components and is less acceptable by the patient. The clear crib have a number of advantages as follows:

- This appliance is devoid of any wire component and is similar to removable thumb crib
- The acceptance of the clear crib is more by the patients
- For the patients who are reluctant for using thumb crib, clear crib act as an initiator for the proper acceptance of the later appliance
- The crib can also be cemented on to the molar region with glass ionomer cement if the patient is unable to wear and remove the crib.

Thus, with the clear crib it is now possible to put an easy break to the habit in conscious and shy adolescent patients.

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