

Customized Ligature Hook: A Noble Approach for Engaging Elastic in Fixed Orthodontics

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Introduction

Orthodontic brackets with hooks are required to engage active components like elastics. However, few brackets especially of Incisors and Premolar are usually devoid of hooks. Therefore in cases where various elastic forms (e.g., Class I, Class II, Class III, Vertical elastics, Cross elastics, Box elastics, Triangular elastics, Settling elastics, etc.) [1-4] are indicated, the use of formed hooks, crimpable hooks, kobayashi hooks, etc. are mandatory [5-7]. These hooks are commercially available which adds to the cost of Orthodontic treatment.

Few methods of attaching hooks are also available in literature which carry certain demerits like time consumption, cost effectiveness, complex wire bendings, debonding of brackets while attachment of hooks etc. [8-10].

Thereby, to reduce the added cost and inventory, and to simplify the procedure, we introduced Customized Ligature hook, which is a noble, easy and user friendly customised hook that can be used for the above mentioned purpose.

Materials Required

1. 0.010" Soft Stainless steel ligature wire.
2. Mathews' pliers.
3. Explorer.
4. Wein guard pliers.
5. Tucker.

Method of Formation of Customised Ligature Hook

Steps involved in the formation of the hook are as follows:

1. Take a 4" long soft SS ligature wire, and double fold it by twisting the two legs of ligature wire around each other to form a braided wire which increases stiffness of wire (**Figures 1A and 1B**).
2. Use this braided ligature wire to ligate the tooth on which the

elastics are to be engaged leaving the long ends of wire intact which will be used to prepare hook (**Figures 2A-2C**).

3. Using tucker and wienguard pliers, refold the end to itself to form a thick wire and shape it like a hook. This refold is to ensure that sharp ends do not impinge on patient's mucosa (**Figures 3A-3C**).
4. Hooks prepared on the tooth as indicated (**Figures 4A-4C**).
5. This hook can then be used for engaging various forms of elastics (**Figures 5A-5F**).

Uses

It can be used to engage following forms of elastics as and when required:

1. Class I, Class II, Class III elastics.
2. Vertical elastics.
3. Cross elastics.
4. Box elastics.
5. Triangular elastics.
6. Settling elastics etc.



Figure 1 4" long soft SS ligature wire.

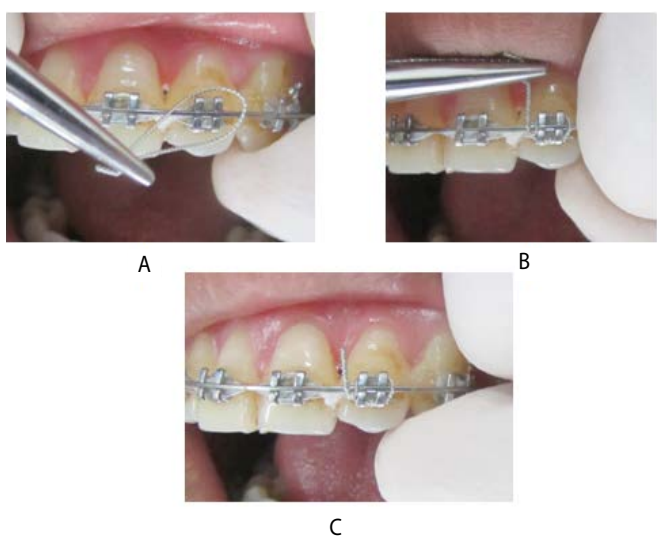


Figure 2 Preparing of hook.

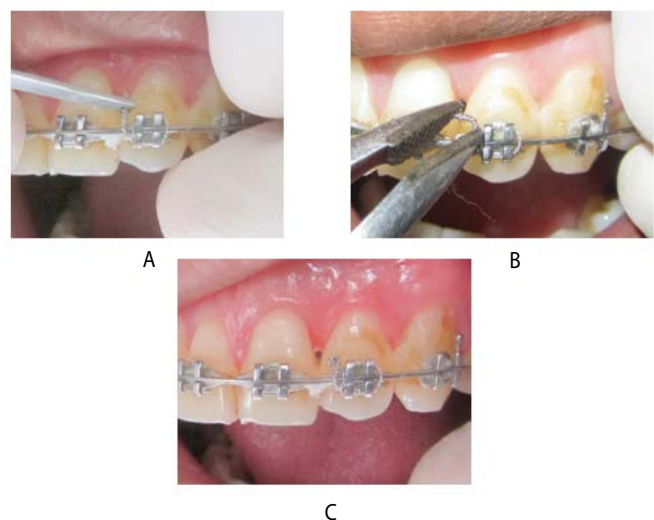


Figure 3 Refold the end to itself to form a thick wire and shape it like a hook.



Figure 4 Hooks prepared.

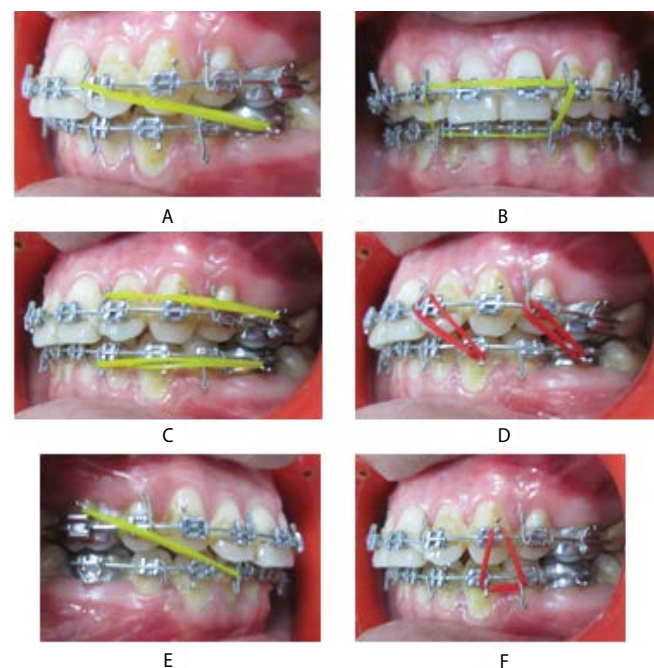


Figure 4 Hook prepared can then be used for engaging various forms of elastics.

Advantages

1. Easy, economical and time saving.
2. Prepared customised as and when required.
3. Good maintenance of oral hygiene.
4. Less irritant to gingival tissues.
5. The hooks can be occlusally placed in indicated cases.
6. Can withstand heavy forces which kobayashi hooks cannot.

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