

Novel Method for Additional Activation of Fixed Functional Appliance (Forsus Fatigue Resistant Device)

Abstract:

Objective: To propose a reliable method for improving the activation of the Forsus Fatigue Resistant Device in situations where standard crimp activation does not yield satisfactory results.

Materials and Methods: A 0.25 mm ligature wire and a bird beak plier are required to effectively secure the push rod.

Results: Wrapping multiple coils of ligature wire around the Forsus Fatigue Resistant Device successfully enhanced its activation, generating higher force levels and exceeding the limitations of traditional crimp activation methods.

Conclusion: This approach offers clinicians a reliable, simple, economical, and time-saving method for achieving effective supplemental activation of the Forsus Fatigue Resistant Device, leading to favorable clinical outcomes.

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I. INTRODUCTION:

Class II, Division 1 malocclusion is characterized by proclined upper incisors, an increased overjet, and lower incisal edges positioned posterior to the cingulum plateau of the maxillary incisors.¹ Most Class II malocclusions caused by mandibular retrusion are managed using functional orthopedic appliances.²⁻³

Class II, Division 1 malocclusion can be effectively managed with the Forsus Fatigue Resistant Device (FRD), a widely favored fixed functional appliance that does not rely on patient compliance.⁴ FRD can apply consistent forces with nickel-titanium coil springs, and the clinician can control the force's amount.⁵ The FRD appliance's main functions include promoting mandibular growth, preventing sagittal upper arch development, causing mesial movement of the lower arch, and enabling distal movement of the upper arch.⁶

The Forsus appliance applies a mesial force to the mandibular dentition and a reciprocal distal force to the maxillary arch since it is fixed to the mandibular archwire and the maxillary molar's headpiece tube.⁷ After inserting an FRD appliance, it is activated by using a crimp, but if overactivation is needed, the crimps are not sufficient. So, to over-activate it, a reliable method is invented, which is mentioned in this article.

II. MATERIALS AND METHODS:

The materials required are a ligature wire of 0.25mm and a bird beak plier to hold the push rod, and the following procedure is followed.

1. Winding of the ligature wire of dimension 0.25mm begins from the mesial end of the push rod (B).
2. A coil of the desired size is constructed based on how much activation is desired (B).
3. Coils of ligature wire are placed directly on the appliance push rods mesial to it and distal to the canine brackets to increase the activation (C).

III. RESULTS:

The Forsus Fatigue Resistant Device was effectively overactivated by using numerous coils of ligature wire, which delivered increased force levels and got around the drawbacks of conventional crimp activation.

IV. DISCUSSION:

Although the Forsus appliance is demonstrated here, these procedures work equally well with most of the other fixed functional appliances currently in use. This procedure reduces chairside time and is one of the easiest ways.

V. CONCLUSION:

This method gives clinicians a quick, easy, and cost-effective way to activate the Forsus Fatigue Resistant Device further, with positive clinical results.

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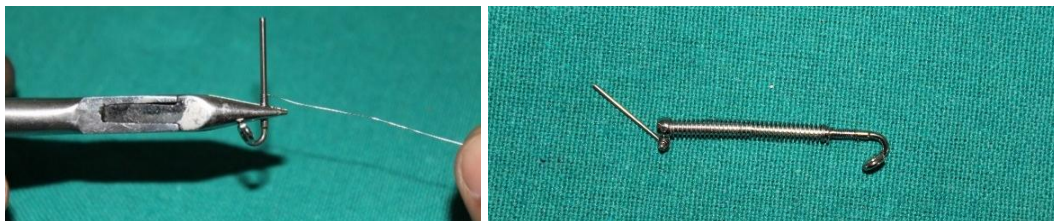
Consent was obtained from the patient for treatment, sharing of photographs.

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A. ARMAMENTARIUM



B. WINDING OF LIGATURE WIRE AROUND PUSH ROD



C. LIGATURE COILS ACTIVATING FORSUS