

“V” Spring for Reactivation of NiTi Open Coil Spring

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Abstract

The NiTi open coil spring is commonly accustomed to creating spaces for crowded teeth. It is difficult to anticipate the length of the open coil spring desired to open up the exact quantity of space; sometimes, the length of the open spring falls short of opening up the space required. In such a case, the base arch wire must be taken out and replaced with an expanded open coil spring, which is both difficult and time-consuming. There are various reactivation methods available, such as split tubings, cutting a C-shaped tube to the desired length, adding extra length to the spring, creating C-rings, and using composite beads. Hence, we have designed a very simple yet effective chairside method to reactivate NiTi open coil spring with the removal of base arch wire.

Keywords

NiTi Open Coil Spring, reactivation of NiTi open coil spring, V spring

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Introduction

The NiTi open coil spring is commonly accustomed to creating spaces for crowded teeth. It is difficult to anticipate the length of the open coil spring desired to open up the exact quantity of space; sometimes, the length of the open spring falls short of opening up the space required¹. In such a case, the base arch wire must be taken out and replaced with an expanded open coil spring, which is both difficult and time-consuming.² There are various reactivation methods available, such as split tubings, cutting a C-shaped tube to the desired length,³ adding extra length to the spring,⁴ creating C-rings,⁵ and using composite beads.^{6,7}

We innovated a simple yet effective chairside method to reactivate the open coil spring without removing the arch wire.

Method of Fabrication

1. Use a Heavy bird beak plier to bend the stainless-steel wire in V shape with an incorporated helix (Figure 1).
2. Expose the arch wire with tucker.
3. Place “V” spring over the arch wire and crimp it (Figure 2).

Versatility

1. On the rectangular base arch wire, a spring made of round wire can be used and vice versa.
2. It can be made with 0.018 or 0.020 inch round stainless-steel wire or 0.016 × 0.022 inch or 0.017 × 0.025-inch rectangular stainless-steel wire.

Advantages

1. Does not necessitate the removal of arch wires, resulting in less chairside time.
2. Prevents the reciprocal force.
3. Addition of a helix aids in further activation.
4. Once the space opens (Figure 3), spring can be placed anywhere by moving along the base arch wire.

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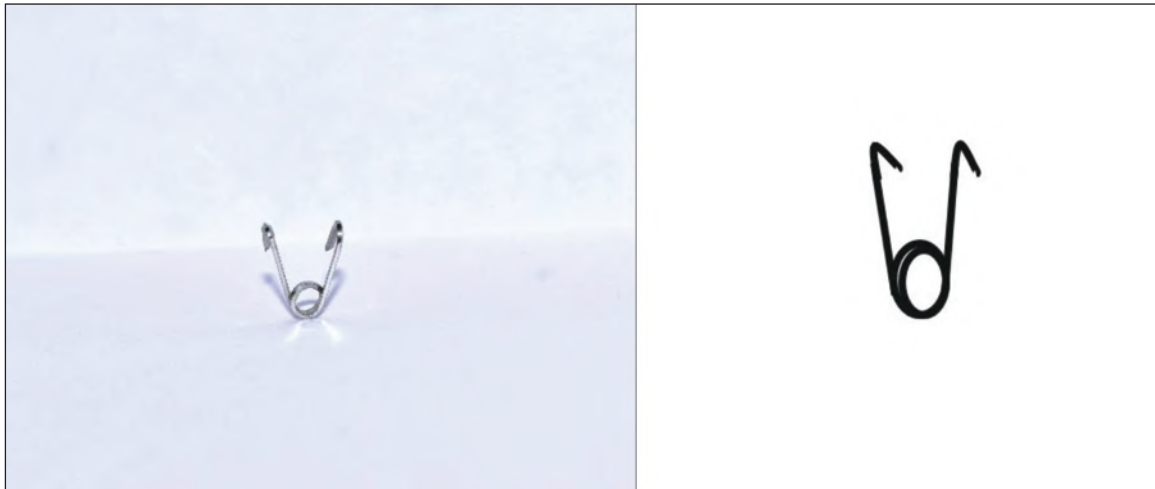


Figure 1. V Spring with Line Diagram.



Figure 2. (a) Spring Requires Reactivation. (b) V Spring is Placed to Activate NiTi Open Coil Spring.



Figure 3. Additional Space is Obtained Using V Spring.

Discussion

The versatility of V spring gives wider range of activation without removal of ligation of adjacent bracket. Clinical experience with this spring has shown that no further activation is required after a single reactivation.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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A Modified Retainer to Prevent Supra-Eruption of Maxillary Molars

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Abstract

The adult patients requiring orthodontic treatment usually need adjunctive dental care for complete rehabilitation. There are so many orthodontic appliances that are used as retainer after comprehensive treatment to retain the orthodontic tooth movement achieved. The purpose of this clinical pearl is to showcase a modified acrylic retainer to prevent the supra-eruption of terminal molar whose antagonist tooth was to be replaced using dental implant after the completion of orthodontic treatment.

Keywords

Adults, Begg's retainer, missing teeth, molar teeth, supra-eruption

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Background

In adult patients, fixed orthodontic treatment is often followed by the replacement of missing teeth with either implant-supported or conventional prosthesis. The appliances need to be retained to prevent extrusion of the tooth in the opposite arch, which causes difficulty in prosthodontic replacement.¹ Adult patients sometimes desire the removal of orthodontic appliances due to aesthetic concerns. The modified removable retainer was designed to hold the maxillary molar in position until the opposite mandibular molar was replaced.

Fabrication

The Begg's retainer² was modified using a wire extension of 0.032-inch stainless steel from the palatal aspect of the mesial side of maxillary left second molar. The occlusal stop was made from a silver solder on the terminal end of 0.032-inch stainless steel archwire and adapted to the occlusal surface of the terminal maxillary molar to prevent the supra-eruption. Figure 1(a–d) shows the step-by-step procedure of wire bending in the study cast, acrylization and adaptation in the patient's maxillary arch.

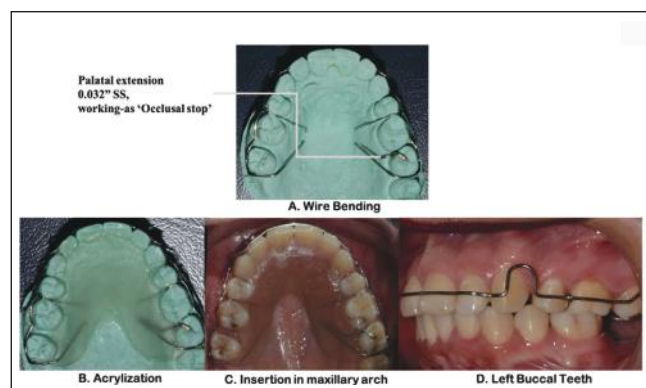


Figure 1. Step-by-step Procedure for the Fabrication. (a) Wire bending. (b) Acrylization. (c) Insertion in maxillary arch. (d) Left buccal teeth.

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This appliance is easy to design, fabricate and inexpensive. The appliance has the advantage of holding the molar effectively without any loss of vertical control of the intruded molars. Therefore, it is of significant clinical importance in contemporary orthodontic practice and should be indicated when the antagonist tooth required significantly more time to be replaced in the oral cavity.

Declaration of Conflicting Interests

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