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Easy way of repairing broken bonded lingual retainers

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Abstract

This article describes a unique way of repairing broken bonded lingual retainers by general dentists with the help of clinically available endodontic files.

Key words: Broken lingual retainer; Endodontic file; Repairing retainer

Introduction

After active orthodontic treatment, some cases require bonded lingual retainers to maintain treatment correction for prolonged periods of time. Due to occlusal wear of the composite over the retainer wire, either retainer breaks as a whole or at some tooth region (Fig. 1). Most failures have been noticed at the enamel composite interface[1] and wire fractures are reported to be directly related to the age of the retainer i.e. the longer the period the greater the chances of breakage.[2] In that case, impression has to be taken for fabrication of retainers on the cast and transferred to the mouth. This procedure needs orthodontic skills and extra chair side time.

Sometimes patients approach general dentist for immediate repair of broken retainer, but a dentist who does not have the knowledge of retainer fabrication feels difficulty in the repair work. This article addresses an easy way of repairing broken retainers by general dentists in a unique way.

Steps involved in retainer fabrication are

1. Take a new 25 number size stainless steel endodontic K file and adapt this file thread to the tooth surface with universal plier or bird beak plier.
2. Give perpendicular bend near the shank region and again give 90°bend towards right or left side, 2mm away from the initial bend.
3. According to the arch form, contour the file thread from tip to the bend region (Fig.2).
4. Handle will help in maintenance of file thread in close relation to the teeth surface during bonding (Fig.3).
5. After completion of bonding, excess file thread is removed by using air rotor hand piece with suction (Fig.4).

Advantages are

1. Easy to fabricate
2. Economical
3. Presence of serration provides better retention
4. Saves chairside time
5. Does not require retainer positioner

Disadvantages are

1. Uneven thickness of file thread provides variable retention
2. Unpredictable retention time period.

Conclusion

In future, research is needed to compare the retention property and fatigue fracture of conventional bonded lingual retainer made of co- axial wire and file thread. The purpose of this article is to help the general dentist in management of broken retainers immediately with clinically available material.

References

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Figure.1: Canine to canine bonded lingual retainer

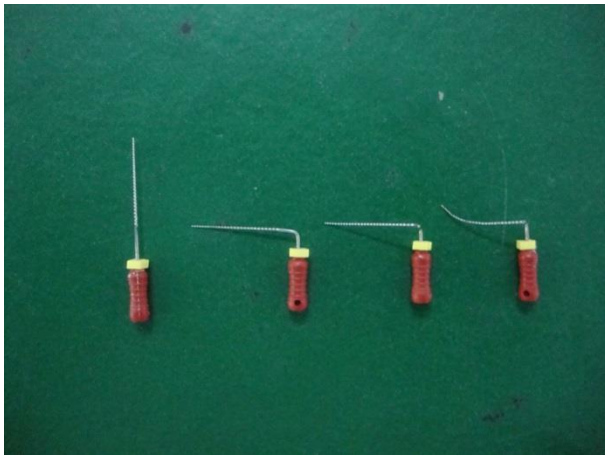

Figure.2: Endodontic K file contoured to arch form

Figure.3: File stabilized with handle before bonding

Figure.4: Repaired broken retainer