SIMPLEX SPACE MAINTAINER - A SIMPLE INNOVATION

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ABSTRACT

The most commonly used space maintainer in paediatric dentistry and orthodontics are of stainless steel band and loops and its modification. But there are some disadvantages with these appliances such as working models, decalcification of abutment tooth, dissolution of luting agent, laboratory procedures. The purpose of this article is to present a simple chair side design of a Simplex space maintainer and discuss the advantages.

KEYWORDS

Simplex, Space Maintainers.

HOW TO CITE THIS ARTICLE: Hussain A, Ramakrishna NB, Kiranmayi M, et al. Simplex space maintainer- A simple innovation. J. Evolution Med. Dent. Sci. 2016;5(96):7096-7097, DOI: 10. 14260/jemds/2016/1606

INTRODUCTION

The primary dentition plays a very important role in growth and development, also in the guidance and eruption of permanent teeth,¹ premature loss of primary tooth can lead to space loss, crowding, shifting of midlines and at certain levels also may lead to mutilated malocclusion.² Generally, the aetiology of such problems is linked to premature loss of one or more deciduous teeth with corresponding loss of space.³ Space maintainers are appliances used to maintain space, so as to guide the unerupted tooth into the proper position in the arch, and also allow the permanent tooth to erupt unhindered into proper alignment and occlusion.⁴

The potential disadvantage of using conventional space maintaining appliance includes separation of teeth by separators, bands, impressions, soft tissue impingement, plaque accumulation, caries, also requires multiple sittings due to lab procedures of soldering and fixation.

This simple passive space maintainer will make it most inexpensive, efficient for the patient.

Steps in Fabrication and Placement of this SSM

- The rectangular stainless steel wire of 0.019 X 0.025 is cut and straightened.
- Two vertical and three horizontal bends are made as shown in the fig. 1.
- Two horizontal sections numbering 1 and 5 are contoured for proper adaptation on the tooth anatomy.

- The horizontal section 3 should be equal to edentulous space, 2-3 mm above cervical margin and 0.5 to 1 mm clearance onto attached gingiva to prevent gingival impingement.
- The length of vertical section 2 and 4 can be variable as per the requirement and to make sure that it should not impinge the buccal frenum.
- The section 1 and 5 to be bonded on the tooth using normal bonding method.

Figure 1

Advantages

1. Cost effective.
2. Easy fabrication.
3. Single sitting.
4. The total treatment duration less than 15-20 min.
5. Hygienic.
6. No laboratory procedures.
7. Easy removal and polishing.
8. The single archwire can be used to make two simplex space maintainer.
9. Rebonding the same post-breakage wire is also easy and quick.

Financial or Other, Competing Interest: None.

Submission 25-10-2016, Peer Review 18-11-2016,

Acceptance 24-11-2016, Published 01-12-2016.

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DOI: 10. 14260/jemds/2016/1606

Disadvantage

Prone to debond from tooth surface mostly in non-cooperative child.

Figure 2. Eruption of Maxillary Second Premolar

Figure 3. After the removal of Simplex

CONCLUSION

To summarise, this article demonstrates a non-invasive, cost-effective, chair-side and simple procedure to maintain the space for the eruption of permanent tooth.

Figure 4. Pre -Treatment X-Ray

Figure 5. Post Treatment X-Ray

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