

Clinical Innovation--Intruding Molar with Spring Loaded Removable Appliance

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I. Introduction

Intrusion of supraerupted upper molar in order to provide interarch clearance for a lower prosthesis in partially edentulous cases is relatively common adjunctive orthodontic procedure. Though literature is enriched with plethora of efficient appliance systems, majority of them depend on either mini screw implant (MSI) or miniplates for vertical anchorage.¹ Extra expenses incurred by these Temporary Anchorage Devices (TADs) might be noteworthy in cases requiring multidisciplinary approach. Author has tried spring assisted molar intrusion with a removable orthodontic appliance which is simple, effective and might be useful in conditions entailing mild (<2.5 mm) intrusion of upper molar.

Appliance Design: After making the impression small section of discarded radiographic plates are used to separate the molar needs to be intruded (A). Partial wax-up done (B) for set-up after pouring the working cast. A closed coiled spring with occlusal extension is then fabricated with .016" Australian wire* having coil diameter and length of 3 mm & 6 mm respectively (C), after repositioning the molar in the working model 2mm apical in relation to the marginal ridges of adjacent teeth (D). Spring is adapted and an occlusal acrylic cap is made for better control of force delivery and to prevent tipping of the molar. An Upper Removable Appliance (URA) carrying Adams and pin head clasps then fabricated, finished and polished (E). When inserted in patients mouth (F) supraerupted molar (G) automatically activates the spring by stretching the coil (H) and exerting around 100 gm of force. We have found slight proximal stripping sufficient only to break the adjacent contacts will speed-up intrusive movement (I).

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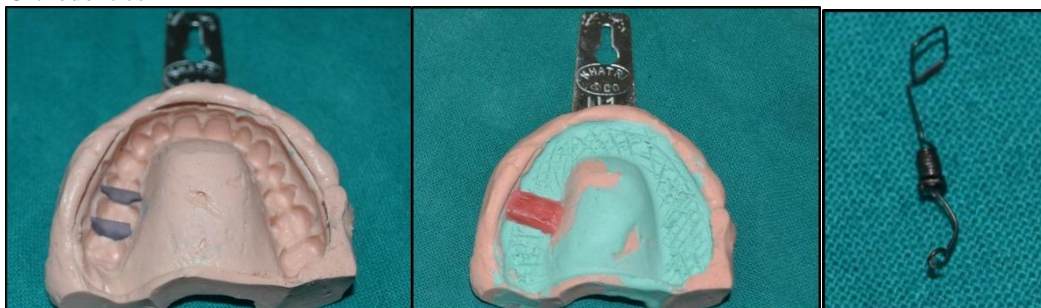


Fig: A

Fig: B

Fig: C



Fig: D

Fig: E

Fig: F



Fig: G

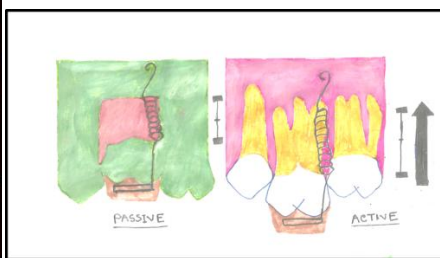


Fig: H



Fig: I

References

- [1]. Arauzo TM, Nascimento MH, Franco FC, Bittencourt MA. Tooth intrusion with mini-implants. *Dental Press J Orthod* 2008;13(5):36-48.

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