Journal of Contemporary Orthodontics 2022;6(3):138–139

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Journal of Contemporary Orthodontics

Journal homepage: https://www.jco-ios.org/

Short Communication

Composite torquing cantilever

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ARTICLE INFO

Article history:
Received 07-05-2022
Accepted 23-07-2022
Available online 13-09-2022

Keywords:
Cantilever
Torquing spring
Root torque
TMA wire
Composite wire

ABSTRACT

Torque is the 3rd key of occlusion, described by Andrews. Achieving ideal torque is one of the most difficult and critical procedures performed during orthodontic treatment. A simple and easy method was used to construct a composite torquing cantilever which provides stability and maintains a high moment: force ratio for a single tooth to achieve labial or lingual root torque during finishing and detailing.

1. Introduction

Torque correction is one of the most difficult and critical procedures performed during orthodontic treatment.[1] Post alignment of palatally or labially blocked out tooth, requires labial or lingual root torque.[2] In this article a simple and easy method to construct a torquing cantilever which is a composite of two different gauges of TMA wire to provide stability and maintain a high moment: force ratio for a single tooth to achieve labial or lingual root torque.[3]

2. Procedure

The technique is illustrated on an. 019" × .025" stainless steel base archwire.

1. Welding of a 0.019×0.025 TMA wire with a 0.017×0.025 TMA wire (or less gauge TMA wire) was done and adapted to the arch form.
2. Based on the tooth to be torqued the length of the wire is adjusted.
3. In the auxiliary tube of molar band 0.019×0.025 TMA wire was used.
4. Anteriorly in the 0.017×0.025 TMA wire (or less gauge wire) a 90° vertical bend was given towards the tooth and another 90° horizontal bend was given that falls into the bracket slot (Figure 1).
5. In the example, the cantilever is twisted towards the incisal edge for labial root torque in the mandibular tooth below the base archwire and ligated tightly (Vice versa in maxillary tooth) (Figure 2).
6. Likewise, the cantilever can be twisted towards the gingiva for lingual root torque in the mandibular tooth (Vice versa in maxillary tooth).
7. Figure 3 shows the effect of the torquing auxillary.

3. Discussion

For root torque, moment: force ratio should be high (12:1) and force level should be low.3 A higher gauge 0.019×0.025 TMA wire was used for rigidity and 0.017×0.025 TMA or lesser gauge wire for torquing as it has low load deflection rate and long range of action, thus inducing greater moment: force ratio.

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https://doi.org/10.18231/j.jco.2022.026

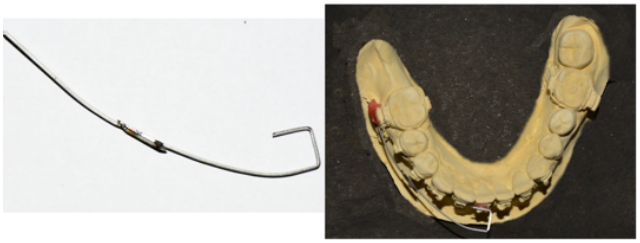

Fig. 1:

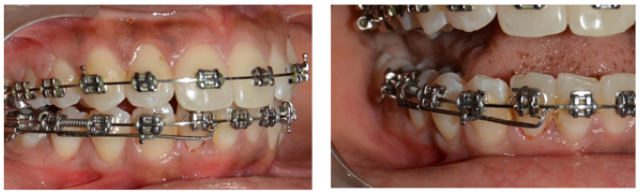

Fig. 2:

Fig. 3:

A preformed design in 0.017×0.025 TMA or lesser gauge wire can be kept ready to which the 0.019×0.025 TMA can be welded on the day of insertion. The composite torquing cantilever which is faster to make and simpler in design will be helpful to attain optimal tooth position during finishing and detailing.

4. Conclusion

The composite torquing auxiliary equips rigidity and provides less force thus enhancing efficient labial and lingual root torque.

5. Source of Funding

None.

6. Conflict of Interest

None.

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Cite this article: Sundaresan V, Karunakara B.C., Prashanth R. Composite torquing cantilever. *J Contemp Orthod* 2022;6(3):138-139.