ANDY’S ‘T-PIN’ CROWN AND ROOT ALIGNING AUXILLARY

Sayali Deshmukh¹, Anand Ambekar², Suresh Kangane³

¹Post Graduate student, Professor and Guide, ²Professor and HOD³, MIDSR Dental College And Hospital, Latur.

ABSTRACT:
Orthodontists strive for accurate bracket positioning because it makes achieving an ideal occlusion easier. They have used a variety of hand-held dental instruments to position the brackets for direct bonding. A number of instruments, including the Boone and Dougherty gauges, MBT gauges, A-KAM and various other modifications, have been used for accurate positioning of brackets in direct bonding. Although position adjustments can be made difficult with such an instrument, the bracket can easily slip when the instrument is removed. Indirect bonding may be a solution, but it is time-consuming and does not provide for precise repositioning of brackets that fall off and also does not give proper root paralleling. We have developed an auxiliary that issued for crown and root paralleling or aligning, horizontal, vertical and axial positioning of bracket (Pre-Treatment assessment) during bracket positioning. Which avoids the step of repositioning the bracket at mid or end of the treatment.

KEY-WORDS:
Andy’s T-pin auxiliary, Bracket positioning, Root paralleling, Crown and root aligning

INTRODUCTION:
One of the most important skills for an orthodontist in modern day orthodontic practice is bracket placement. Roth says, ‘At the heart of every excellent treatment result lies a well-placed appliance, regardless of the appliance that is used. Poorly positioned bracket result in poorly positioned teeth and necessitate many more arch wire adjustments .This can lead to an increase in treatment time or final occlusion that is less than ideal. Various techniques for improving bracket positioning have been described most of these are useful in improving the vertical positioning of the bracket during bonding1. The goal of orthodontic treatment is to move the teeth into a stable, aesthetic and functional occlusion with every crown and root positioned ideally in three dimensions. To achieve this optimal occlusion, orthodontists often follow Andrews ‘six keys to normal occlusion. While four of Andrew’s ‘keys (molar relation, rotations, spaces and occlusal plane) are guided by crown position, his other keys (mesiodistal angulations and buccolingual inclinations) depend on both crown and root position. Root position plays a role in the mesiodistal angulation and buccolingual inclination because of variations in crown morphologies, inconsistencies in crown-root angulations, and a crown is short relative to root length. Accurate root position is integral for successful orthodontic treatment. Current methods of monitoring root position are
either inaccurate, exhibit poor resolution, or use relatively large amount of radiation relative to benefits for patient. Good axial inclinations and adequate root parallelism with regular bone distribution between teeth helps to obtain and maintain a stable treatment results. At the mid treatment or end of the treatment the most common difficulty which is faced by the orthodontists is inaccurate root paralleling which need to reposition the bracket again and increases the duration of treatment. We have developed an auxiliary ‘T’ pin which is used initially for bonding procedure and the major advantage of this pin is this avoids the step of repositioning of the bracket and this device is all in one which is also use for horizontal and vertical positioning of bracket.

**FABRICATION:**

**ARMAMENTARIUM:**

a) 0.017” x 0.025” gauze S.S wire  
b) Soldering flux  
c) Soldering material  
d) Torch  
e) Tweezer

**METHODOLOGY:**

1) To fabricate ‘T’ PIN auxiliary 0.017” x 0.025” gauze S.S wire issued which is often available in any orthodontist’s instrument set.  
2) After straightening S.S wire it is cut into 10x4mm length.  
3) This auxiliary has two arms one is called vertical arm (10mm) and other is called horizontal arm (4mm) [Figure 1]  
4) Both the arms are then soldered in ‘T’ like fashion using Soldering flux and Soldering material by holding with tweezer [Figure 2]  
5) ‘T’ should be snugly fit into horizontal slot as shown in [Figure 3]  
6) And vertical arm should be in line with long axis

**PROCEDURE:**

1) Place the ‘T’ pin into vertical slot of bracket make the adjustments according to dimensions of teeth. [Figure 4]  
2) Take RVG along with ‘T’ pin with patient in accurate sitting position. [Figure 5]  
3) And following these easy and few steps we can easily achieve accurate, early root paralleling,
proper horizontal and vertical and axial accuracy during bracket positioning initially

**INTRAORAL PLACEMENT OF ‘T’PIN AND RVG OF SAME TOOTH**

**ADVANTAGES:**

1) Crown and Root aligning
2) Axial, Horizontal, Vertical and mesiodistal accuracy
3) Less exposure of patient from various radiographic techniques (OPG)
4) Design simplicity:
   - Easy to fabricate
   - Requires less time to fabricate
   - Easy to transport
   - Inexpensive and cost-effective
   - Comfortable to patient

**LIMITATIONS**

1) For every tooth RVG has to be taken.
2) Bracket positioning can be change while shooting x-ray.

**CONCLUSION:**

Andy’s ‘T’pin auxiliary is used primarily to assess the crown and root aligning and root parallelism. And also can be used for accurate bracket positioning which avoids the repositioning of bracket.

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**Conflicts of interest:**

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**REFERENCES:**