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V- Lingual Jig

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ABSTRACT

Esthetics has always been one of the primary concern for the patients opting for orthodontic treatment. Lingual orthodontics is gaining popularity these days. Lingual brackets need customization, as torque can not be incorporated into lingual bracket bases due to anatomy of lingual surface of teeth. V-lingual jig is one of the ways to do lingual bracket customization.

Keywords: V- lingual jig, Lingual orthodontics, Lingual bracket customization.

INTRODUCTION

Correct bracket positioning is the basis for a successful orthodontic treatment, either be it labial or lingual technique. In lingual technique, torque transfer becomes an important necessity due to some factors-

1. A lot of variability is seen in anatomy of lingual surface of teeth mostly in maxillary anterior teeth.
2. Crucial association between torque of labial surface and vertical height of lingual brackets due to span of lingual brackets from labial surface.
3. Necessity of numerous first order bends due to wide variations in intertooth labiolingual thickness in anterior region especially in upper arch.
4. Compensatory bends are difficult to make due to small inter-bracket span mostly in maxillary anterior region.

Due to unpredictability of contour of apical third, middle third and incisal third of lingual surface of teeth, it is not wise to go for direct bonding of brackets or free hand indirect bonding of brackets on the lingual surface. To eliminate this difficulty in bonding brackets on lingual surface of teeth, customization of bracket base is necessary.

Presently, lingual bonding is done indirectly using various techniques like TARG system, the SLOT machine or the CLASS system. These procedures are time consuming and require specialized technical skills.

Hence, in this paper, we have presented a device for customization of lingual brackets, that transfers the in-out value, torque and tip from labial surface of tooth to lingual surface in an accurate and efficient manner.. We can make this jig at different vertical height interval of 0.5mm.^[1-5]

FABRICATION OF JIG

1. Take a protractor and cut it in suitable size. Then, place four standard edgewise brackets of

.018 inch slot, 2 on either side of the protractor (Fig. 1).



Figure 1: Placement of standard edgewise bracket of .018" slot

2. Now, take a .018×.025 inch s.s. wire and bend it at 90 degree. Then, ligate this wire on right side of protractor with the help of elastomeric modules (right side of protractor is labial side and left side of protractor is lingual side).

3. Then, take a patient's study model (malocclusion model). Survey the cast and measure mesio-distal width and cervico-incisal height of each tooth. Then, start bonding MBT brackets of .018" slot on labial side of malocclusion model at decided height (Fig. 2).



Figure 2- required armamentarium

4. Take four .018×.025" SS wires and bend them vertically at interval of 0.5 mm in upward direction(at 0.5mm, 1mm, 1.5mm, 2mm) as shown in figure 3 and then at 90 degree in the same plane as labial wire (Wire placed on right side of protractor) as shown in figure 4, and the same lingual wires can be used in downward direction if we revert the direction of labial wire

on jig (Fig.5). Then, place anyone wire out of four wires according to need of vertical height of bonding on lingual side on left side of protractor (wire placed on left side of protractor as shown in figure 5 i.e vertical height interval of 2 mm in upward direction). Place a colour coding on protractor to get exact thickness of bonding on each tooth (fig 6).

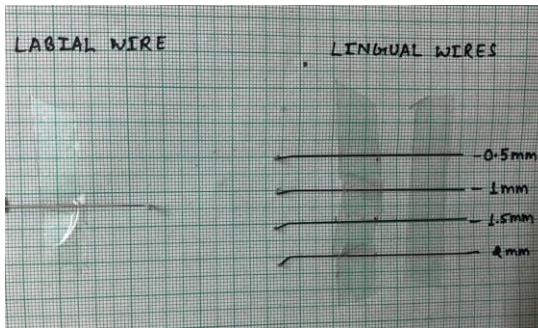


Fig3- Four .018×.025'' SS wires wires bent vertically at interval of 0.5 mm (lingual wires)

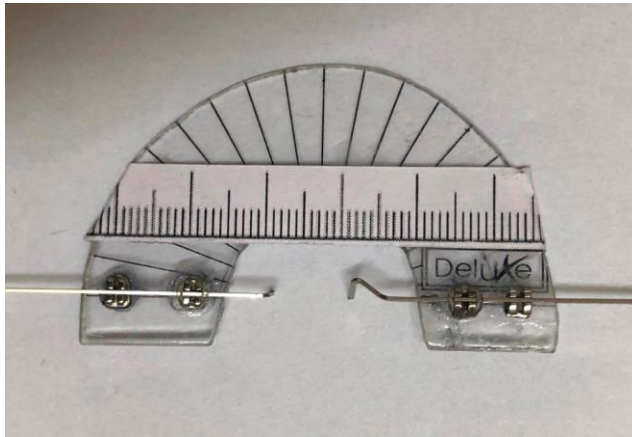


Fig4- Lingual wire bent in upward direction in same plane as labial wire

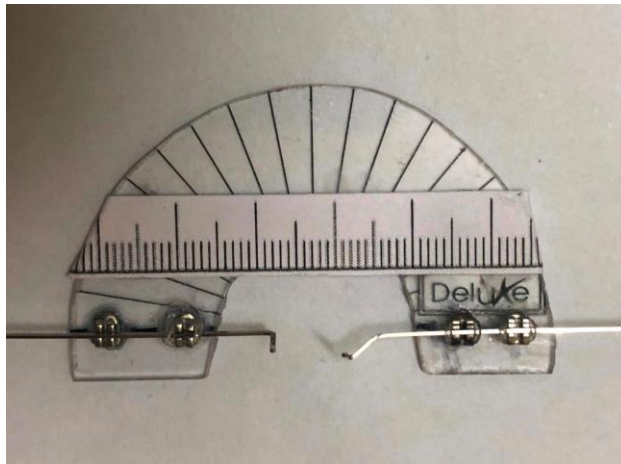


Fig 5—Same Lingual wire used in downward direction if we revert the direction of labial wire

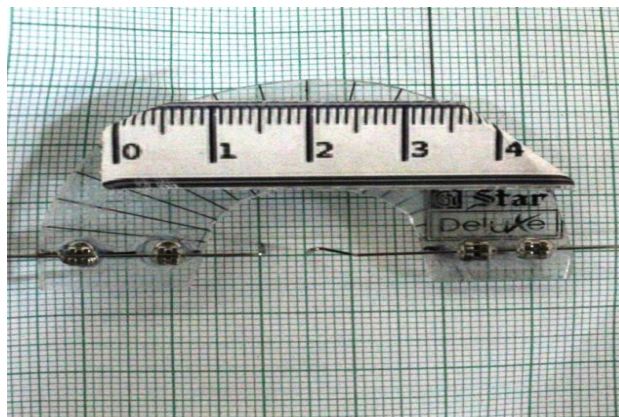


Figure6:V- Lingual jig

5. After preparing the jig, on lingual side of malocclusion model, measure clinical crown height at lingual central long axis and mark the midpoint. Do not follow labial clinical crown

height measurement. Transfer the torque from labial brackets to lingual brackets as shown in the figure 7.



Figure 7- Transfer of torque from labial brackets to lingual brackets.

Labh Lingual Jig is an efficient device for indirect bonding of lingual brackets, but separate jigs are required for each tooth, but V-Lingual Jig can be used universally for each tooth.

It is a student friendly as well as cost effective method of indirect bonding of lingual brackets. Disadvantage of V-Lingual jig is that we have to bond the brackets on the labial surface of working model of the patient.

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