

# MODIFIED TPA TO CORRECT SECOND MOLAR BUCCAL CROSSBITE -TECHNIQUE CLINIC

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## INTRODUCTION

One of the most challenging situations in orthodontics is correction of posterior crossbite, especially caused by a buccally erupted second permanent molar<sup>1</sup>.

The conventional approach, to treat the single tooth posterior crossbite includes intra- or interarch latex cross-elastics.<sup>2,3</sup> Since all these mechanics involve a vertical force vector, they can produce unwanted extrusion of the second molars. Therefore cross elastics should be avoided in cases where the second molar has already overerupted, have hanging palatal cusp, or in patients with high mandibular plane angles.

Here we have used a simple and effective method by modifying the TPA creating an intrusive force along with lingual traction to treat these buccal crossbites without having extrusion of tooth which is unwanted side effect of inter arch cross elastics.

## Case Report

We report a case having buccal crossbite with left second molar.(fig1). Transpalatal arch and lingual arch is used in both the upper and lower arch as an anchorage unit. After the alignment phase 0.019" x 0.025" SS wires were engaged in both upper and lower arches.



Fig.1 left second molar in buccal crossbite

End of TPA is extended posteriorly towards the second molar and bent palatally to have a hook like extension at the end. Elastic is attached to the upper left 2<sup>nd</sup> molar tube on the buccal side to the hook of TPA extension palatally. (fig.2a)

In lower arch straight length 0.021" x 0.025" stainless steel auxiliary wire is bent in S shape (as shown in fig2b); placed in auxiliary tube of lower left 1<sup>st</sup> molar. Its mesial end is secured with the bend back and distal end is bent for elastic attachment. Elastic is engaged from this wire to the lingual button on the lingual side of lower left second molar. (fig.2c)

An anterior bite plane or posterior bite block on 1<sup>st</sup> molars may be needed to remove occlusal interference. The single-tooth crossbite can usually be corrected within six weeks. (fig. 3a, 3b)

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Fig. 2a: Modified TPA,

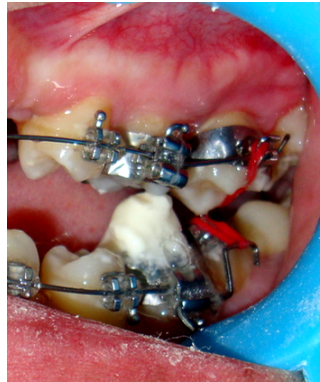


Fig.2b: S shaped extension from, 1<sup>st</sup> molar



Fig.2c elastic from lingual button to extension



Fig. 3a



Fig. 3b

This approach offers several advantages:

- Simple design.
- Correction of crossbite without extrusion of molars: thus this technique can be used in vertical grower patients also.
- Direction of force along the long axis of the second molar's palatal root .
- Simultaneous intrusion of the molar's palatal cusp and retraction into alignment.
- Reduced chair side time.

## REFERENCES

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