

## Modified Nance Palatal Arch

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Received: July 17, 2017; Accepted: August 07, 2017; Published: August 12, 2017

**Keywords:** Modified nance palatal arch; Treatment; Laboratory; Teeth

### Introduction

Every patient undergoing orthodontic treatment desires early finishing of orthodontic procedure. So quick and rapid correction of malocclusion becomes an important objective for orthodontist. To achieve this objective, Modified Nance Palatal Arch was fabricated.

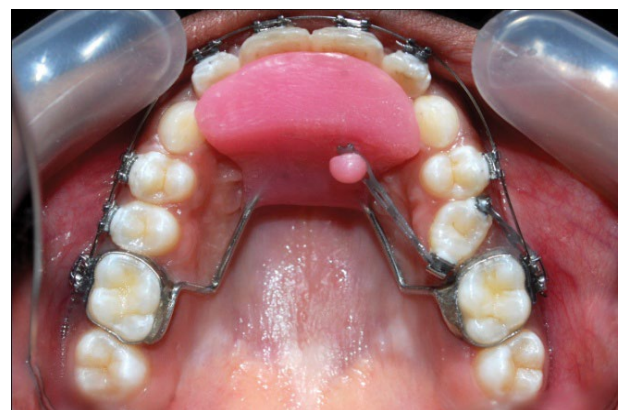
### Case Report

Patient 15 years of age, female, reported with Angle's Class I malocclusion with impacted 13, 23, retained 53 and 63, considerable deep bite, and severe rotation of 15 (**Figure 1**). 0.022" MBT prescription appliance was bonded to the teeth. For correction of rotation, one has to either bend a hook or loop in wire, embed it in Nance acrylic button or solder a hook on Nance Palatal Arch, which is tedious, time consuming and also requires additional laboratory procedure. On the other hand one has to proceed till a stabilizing archwire to prevent reactionary forces on teeth, which further increases treatment duration.

A fixed Modified Nance Palatal Arch was fabricated and placed. The modification involved an anterior bite plane with an acrylic button (**Figure 2**). This design served the purpose of controlling the anchorage, correcting deep bite and derotation of severely rotated 15, simultaneously. Since the derotation to be achieved was unilateral, the button was fabricated on right side only. For rotation correction, elastomeric chain was attached from acrylic button to inverted Begg's bracket bonded on palatal surface of 15



**Figure 1** Angle's Class I malocclusion.



**Figure 2** Anterior bite plane with acrylic button.

(**Figure 3**). As some correction of rotation took place, there was enough space available to bond a bracket on the buccal surface of the tooth. A couple force was applied on the 2<sup>nd</sup> premolar for further rotation correction. At this stage the tooth was lightly ligated to round arch wire. Final correction of rotation of 15 was quickly achieved during the initial alignment phase only and 0.018" stainless steel wire was ligated to all the brackets (**Figure 4**) [1,2].

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**Citation:** Sunda S, Khanna P, Panghal V. (2017) Modified Nance Palatal Arch. J Med Res Health Educ. Vol. 1 No. 2: 9.



**Figure 3** Elastomeric chain attached from acrylic button to inverted Begg's bracket bonded on palatal surface.



**Figure 4** 0.018" stainless steel wire ligated to the brackets.

## Procedure

At the time of acrylization, an elastomeric separator with separation media (Vaseline) was placed in the location where button was to be fabricated and cold cure material was poured over it. The separator was removed with the help of a probe after the acrylic had set. The shape of button was further refined with the help of a fine round bur and given a shape of a mushroom.

## Advantages of the Modified Nance Palatal Arch

1. The button can be made at the time of acrylization only thereby circumventing additional wire bending and soldering procedures.
2. With Modified Nance Palatal Arch, correction of derotation and deep bite could be achieved easily and quickly, during the initial alignment stage only.
3. The button can also be placed in the center and can be used as a reminder in case of tongue thrusting habit. Additional button can be added on the other side if rotation correction is required bilaterally.

## Conclusion

The modification done on Nance palatal arch helped to reduce the total treatment time by achieving early correction of deep bite and derotation of premolar. Hence it can be concluded that modification of Nance can be used to achieve derotation more than 90° at an early stage and can be used in patient with tongue thrusting habit.

## References

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- 2 Neal D, Kravitzand BK (2007) A Quick and Inexpensive Method for Composite Button Fabrication. JCO XLI: 65-66.