Journal of Contemporary Orthodontics 2024;8(4):552–554

Content available at: https://www.ipinnovative.com/open-access-journals

Journal of Contemporary Orthodontics

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

Short Communication

Chairside nance button- A novel technique of fabrication of the nance palatal button

Bhavitha Varghese Arackal[1]*, Shweta R Bhat

[1]*Dept. of Orthodontics, Nair Hospital Dental College, Mumbai, Maharashtra, India*

ARTICLE INFO

Article history:
Received 20-03-2024
Accepted 30-04-2024
Available online 02-11-2024

1. Introduction

The Nance palatal button, first described by Nance in 1947, serves as a common anchorage appliance for moderate anchorage and as a space maintainer. Essentially, it is a modified version of the transpalatal arch, integrating an acrylic button, particularly beneficial for patients with higher anchorage requirements.[1]

Various versions of fabrication of Nance Palatal Button have been described in the past.[2–4] These methods required transferring metal bands with an impression, followed by soldering a looped stainless-steel wire onto the palatal surface of the bands in the lab. Subsequently, an acrylic button would be added to the anterior part of the wire, positioned against the hard palate. Finally, the appliance would be cemented onto the molars intra-orally.

However, this traditional procedure proved to be time-consuming and occasionally led to poor appliance fit due to potential shifts in the position of bands during impression transfer. To address these challenges, a new chairside fabrication technique has been adopted. This method involves crafting the appliance directly in the dental chair without necessitating any lab procedures. The acrylic button is replaced with a light cure composite material (Anabond Blu - Bite) (Figure 1) which can be precisely positioned in the desired site and cured intraorally.

Figure 1: Light cure composite material (Anabond Blu- Bite)

Figure 2: Wire framework prepared on working model.

* *Corresponding author*.
E-mail address: bhavitaa275@gmail.com (B. V. Arackal).

https://doi.org/10.18231/j.jco.2024.083

Figure 3: Wire framework trial intraorally

Figure 4: Wire framework inserted into the lingual sheaths

Figure 5: Palatal surface air dried for placement of composite button

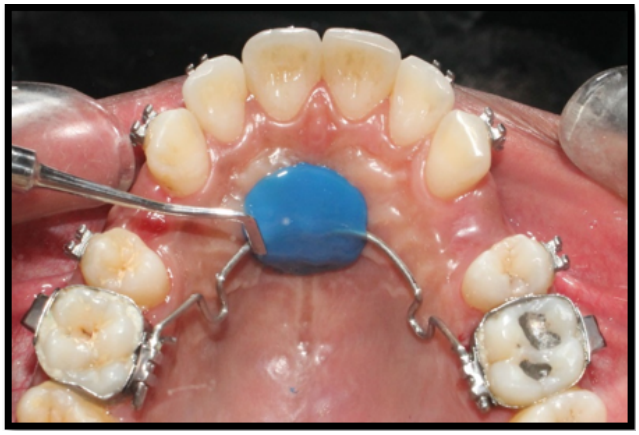

Figure 6: Blu- bite material placed on the anterior loop

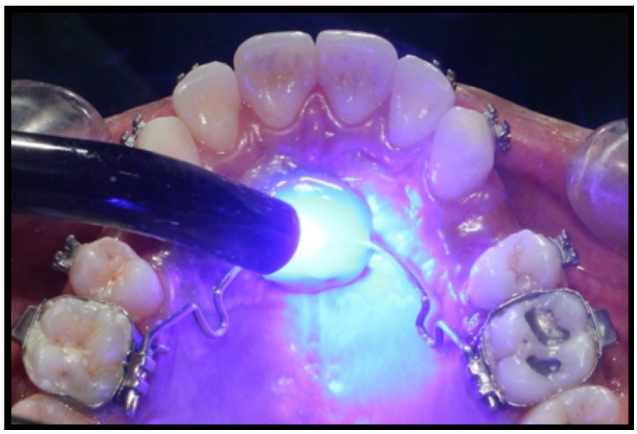

Figure 7: Composite material cured for 20 seconds.

Figure 8: Chairside Nance button in place

2. Materials and Methods

The steps of fabricating the appliance are described below:

1. A U-shaped wire framework with 3 U-loops is prepared with a 20-gauge round stainless steel wire. The distal ends of the framework consist of a double back bend. The anterior U- loop is made for retention of the blue bite and posterior loops are for adjusting the anteroposterior length of the appliance. (Figure 2)
2. The wire framework is tried intraorally for its fit. The double back bends of the distal end is inserted in the lingual sheath welded on the molar bands. Adjustments are done for a passive fit of the framework into the lingual sheath. (Figure 3)
3. The wire framework is checked for its adaptation on the palate with 0.5 mm clearance away from the tissue surface. (Figure 4)
4. The junction of the vertical slope and horizontal area of the anterior palate is the site of the placement of the button. The area is air dried with the three-way syringe. (Figure 5)
5. A coin size amount of Blu- bite is moulded having a thickness of about 2mm. It is placed in the site over the anterior U loop of the wire framework. (Figure 6)
6. The Blue Bite material is cured with a LED light curing unit for 20 seconds on each half of the button. (Figure 7)
7. The final appliance is in place for use. It is used as an anchorage device in sagittal plane. (Figure 8)

3. Discussion

A poorly fitting Nance palatal button can lead to harmful consequences such as difficulty in oral hygiene, tissue impingement, and periodontal damage.[5–7] The current fabrication technique involves minimal lab procedures, helps ensure a proper fit and reduces these risks.

4. Conclusion

The chairside fabrication of Nance palatal button using a light cure composite material has the following advantages:

1. Precise placement of the button intraorally.
2. Saves an additional lab appointment
3. Easy to fabricate.
4. Reduced food lodgement.
5. Ease of removal of appliance.

5. Source of Funding

None.

6. Conflict of Interest

None.

References

1. Nance HN. The limitations of orthodontic treatment; mixed dentition diagnosis and treatment. *Am J Orthod*. 1947;33(4):90051–4.
2. Barwart O, Richter M. Removable Nance appliance. *J Clin Orthod*. 1996;30(8):447–9.
3. Arora N, Arora M, Singh AK, Revankar AV. Modified Nance palatal button. *APOS Trends Orthod*. 2015;5(4):166–8.
4. Sain DR, Huge SA, Pickering JT. Indirect-bonded Nance appliance. *J Clin Orthod*. 1994;28(9):522–4.
5. Sullivan Z, Orthodontics JHJ. Tissue necrosis under a Nance palatal arch: a case report. *Taylor Francis*. 2017;36(4):302–6.
6. Singh P, Cox S. Nance palatal arch: a cautionary tale. *J Orthod*. 2009;36(4):272–6.
7. Chandwale K, Batho A. Management of palatal entrapment of mini-implant supported pendulum appliance: A case report. *Int J Appl Dent Sci*. 2023;9(1):160–2.

Author's biography

Bhavitha Varghese Arackal, Post Graduate Student

Shweta R Bhat, Professor and Head

Cite this article: Arackal BV, Bhat SR. Chairside nance button- A novel technique of fabrication of the nance palatal button. *J Contemp Orthod* 2024;8(4):552-554.