

# A Novel Modified Reverse Twin Block Appliance - Trifecta

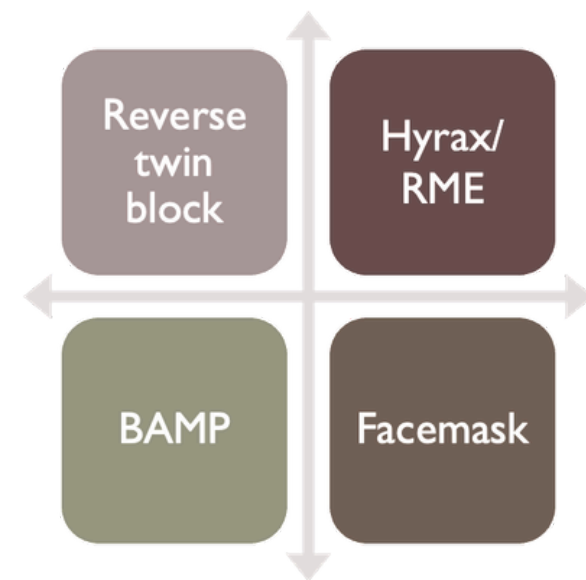


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## 1. INTRODUCTION

- Class III malocclusion is defined as a deficiency in the sagittal relation between the maxilla and mandible, which may be accompanied by maxillary hypoplasia, mandibular prognathism, or both.
- The management of Class III malocclusion aims to correct skeletal discrepancies by promoting maxillary growth and restraining mandibular development.

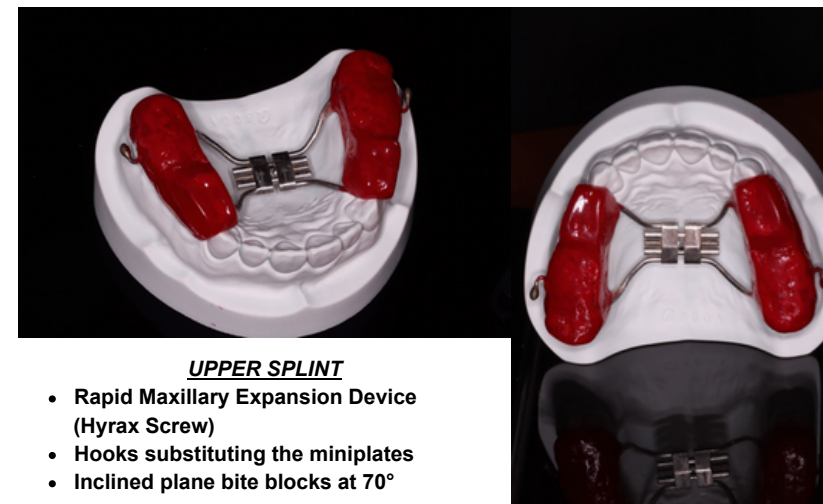
## 2. PRINCIPLE



## 3. AIM

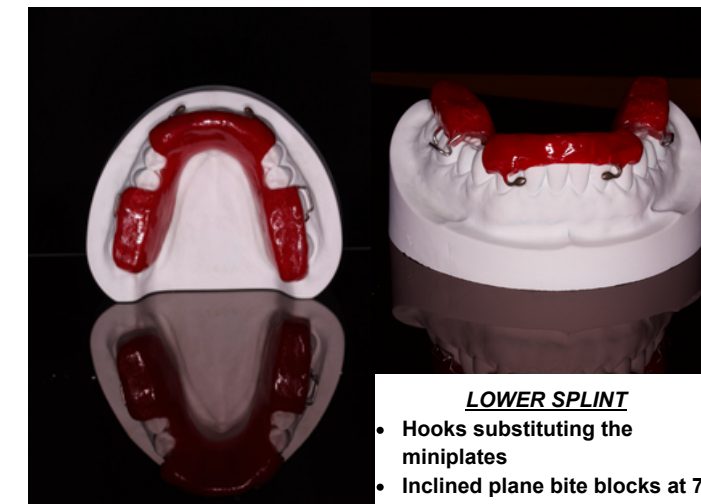
To evaluate the effectiveness of the RMS Bite Corrector appliance in early Class III correction

## 4. APPLIANCE DESIGN



**UPPER SPLINT**

- Rapid Maxillary Expansion Device (Hyrax Screw)
- Hooks substituting the miniplates
- Inclined plane bite blocks at 70°



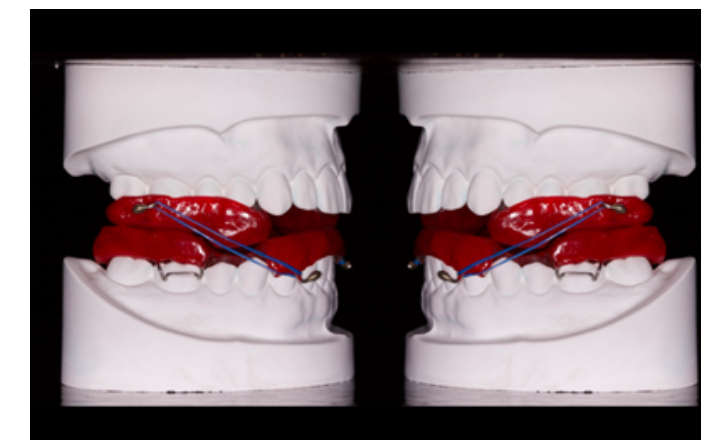
**LOWER SPLINT**

- Hooks substituting the miniplates
- Inclined plane bite blocks at 70°



**HOOKS**

- Upper block: Maxillary molar region
- Lower block: In between the lateral incisor and canine



**ELASTICS**

- Intermaxillary elastics engaged bilaterally
- Deliver continuous orthopedic force

## 5. CLINICAL TRIAL

In a Pilot study (n = 8) with 8 children aged 5-13 years  
 This appliance has proven effective in reducing

- Gonial angle
- Incisor Mandibular Plane angle
- Anterior Facial height

Improving the concave facial profile of the patient



	PRE	POST
SNA	76°	77.5°
SNB	80°	78°
li-MP	82.5°	78°
Gonial angle	134°	126.5°

## 6. CONCLUSION

This modified Reverse Twin Block 'Trifecta' appliance - RMS Bite Corrector represents a promising intra-oral alternative for early Class III correction, effectively integrating orthopedic force principles to enhance maxillary advancement while improving facial profile in growing patients.

## REFERENCES

1. John JM, Hegde AM, Shetty R. Correction of Skeletal Class III Malocclusion in growing children using modified reverse twin block appliance – a clinical study [master thesis]
2. Zere E, Chaudhari PK, Sharan J, Dhingra K, Tiwari N. Developing Class III malocclusions: challenges and solutions. Clinical, cosmetic and investigational dentistry. 2018;10:99.
3. The Patent Office, Government of India - Patent No: 555320; Application No: 202141032032; Date of Filing: 16/07/2021; Date of Grant: 28/11/2024; Patentee: Nitte University