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## **MANDIBULAR PROTRACTOR APPLIANCE FOR CLASS II TREATMENT: A CASE REPORT**

### **INTRUDUCTION**

Skeletal class II malocclusion is characterized as an anteroposterior discrepancy that can be determined by the maxillary protrusion, mandibular retrusion, or a combination of both factors. The therapeutic approach may vary according to the etiology. In cases where there is mandibular retrusion, the use of fixed mandibular protractor appliance has been one of the treatment alternatives in an attempt to avoid tooth extractions and more invasive treatments. Due to the difficulty of adolescent patients' collaboration, in the use of removable and class II elastic devices, the use of fixed protractors becomes advantageous<sup>1,2</sup>.

The PowerScope mandibular protactor is a fixed functional orthodontic appliance that creates orthopedic force directed at the mandibular condyle. These appliances produce skeletal correction by initiating remodeling changes at the mandibular condyle and glenoid fossa as well as, repositioning the mandibular condyle in the glenoid fossa and autorotation of the mandibular bone<sup>1</sup>. Must also be considered the percentage of dentoalveolar effects in correcting Class II malocclusion with the protractor advice<sup>3</sup>. PowerScope is a comfortable appliance, quick and easy wire-to-wire installation, minimizing the need for patient compliance<sup>4</sup>.

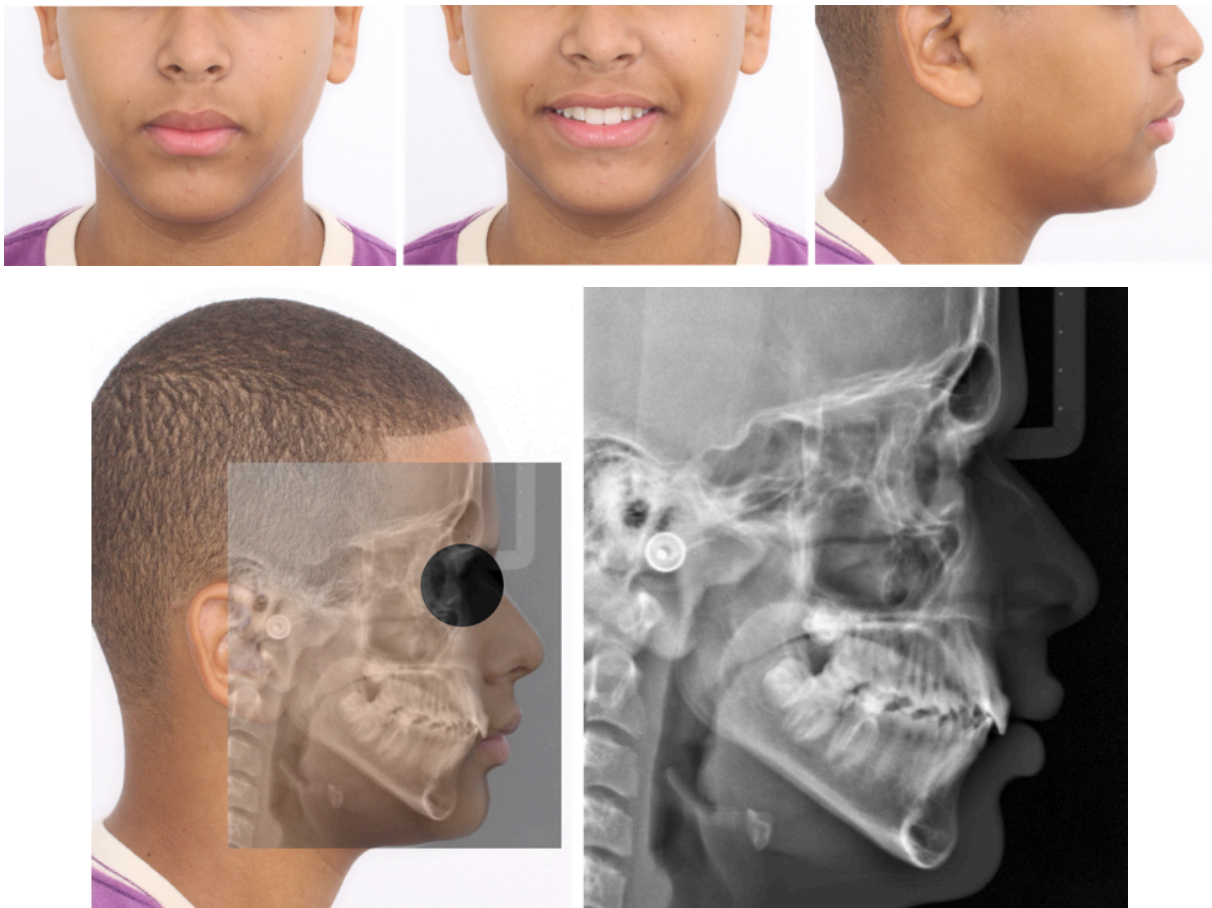
## CASE REPORT

This report illustrates the clinical case of a 15-year-old male patient, in the growth phase, with a skeletal class II malocclusion due to mandibular growth deficiency. The main complaint was the position of the upper incisors, which were buccal. The patient had a convex profile with mandibular retrusion (Figure 1) and an Angle class II malocclusion (Figure 2).

Corrective orthodontic treatment with a fixed appliance was performed, without extractions, associated with a hybrid mandibular protractor device, the PowerScope (American Orthodontics).

A fixed appliance was installed in the upper and lower arches (MBT slot 0.022"), alignment and leveling up to the 0.019x0.025" stainless steel coordinate wires, and then the mandibular protractor appliance installation (PowerScope, American Orthodontics). The protractor was used for 10 months (Figure 3).

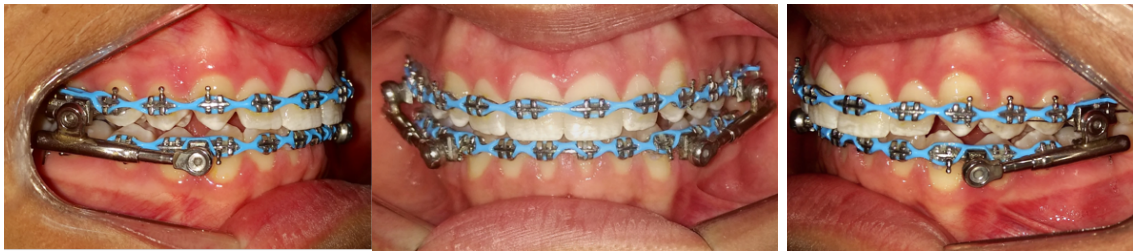
**Figure 1** – Initial patient facial and skeletal characteristics



**Figure 2** – Patient initial Angle class II malocclusion

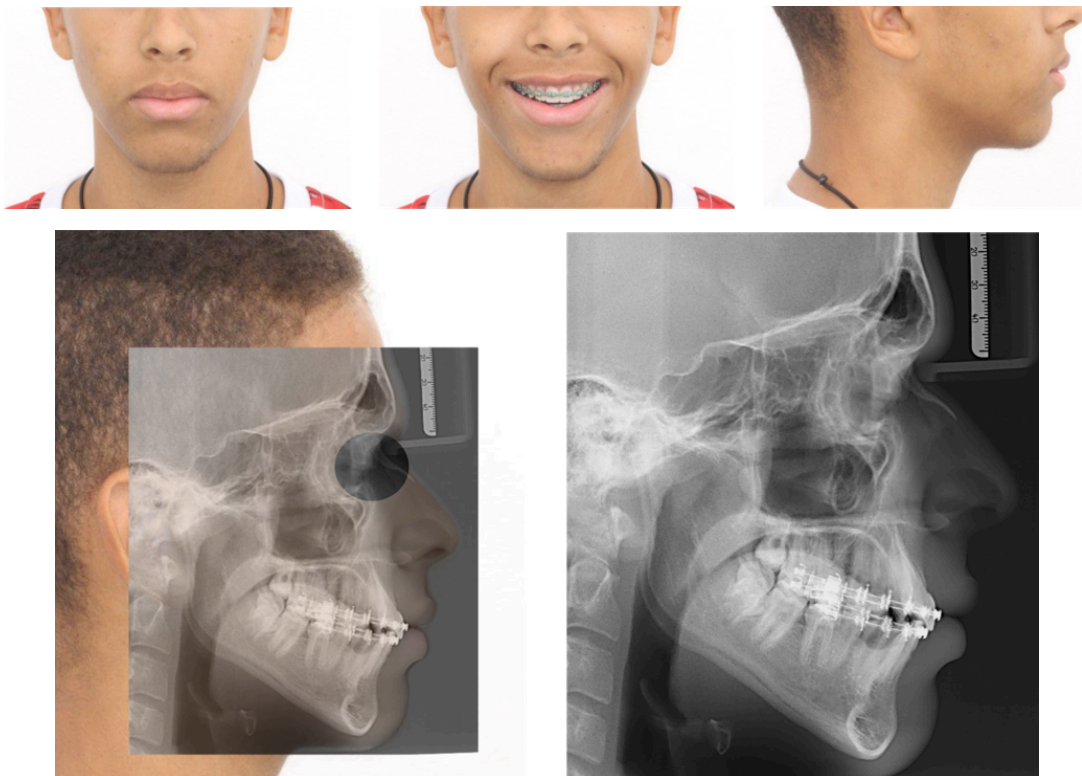


**Figure 3** – Mandibular protractor device, the PowerScope



The final images showed the class II malocclusion correction and the maxillomandibular adequate relationship. The upper incisors verticalization, Angle class 1 molar relationship, and also a significant improvement in the patient's profile (Figure 4, 5 and 6).

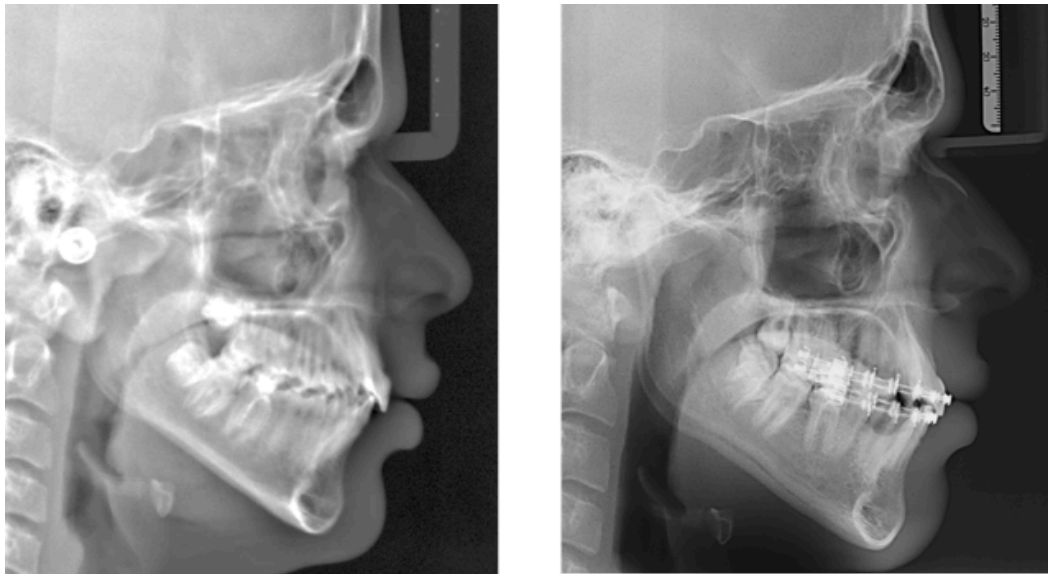
**Figure 4** – Final patient facial and skeletal characteristics



**Figure 5** – Final patient Angle class 1 occlusion



**Figure 6** – Pre and post treatment cephalometric images.



## CONCLUSION

There was an improvement in the patient cephalometric profile, improving the maxillomandibular relationship.

Protractors proved to be a viable option to be considered to promote mandibular advancement and dentoalveolar movements in class II mandibular deficiency treatment.

## REFERENCES

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