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An Efficient Method To Treat Growing Class Iii Patients With Modified Protraction Headgear By Applying Additional Force On Chin-Cup Component

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Abstract:*Growing skeletal class III patients always possess various challenges for orthodontists and if the patient has both maxillary deficiency and mandibular prognathism, then there is confusion whether to use protraction headgear or chin-cup therapy. We have modified the design of the protraction headgear in an easy and simple manner by applying additional force on chin-cup component. The aim of the clinical innovation is to address both maxillary deficiency and mandibular prognathism skeletal problems and to take benefits of both the appliances together i.e. protraction headgear and chin-cup.*

Key Word*: Protraction Headgear, Growing Class III patient, Chip cup*

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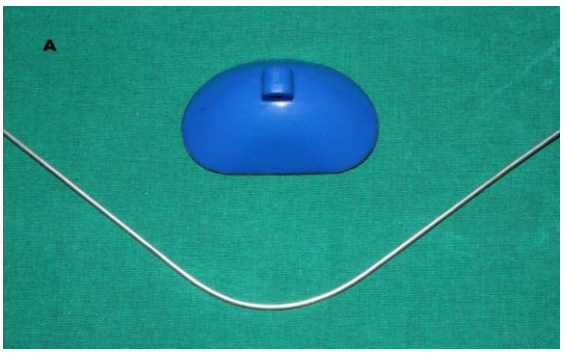
I. Introduction

Treatment of growing skeletal class III patients is always challenging for orthodontists and if the patient has both maxillary deficiency and mandibular prognathism, then there is a dilemma whether to use protraction headgear or chin-cup therapy.

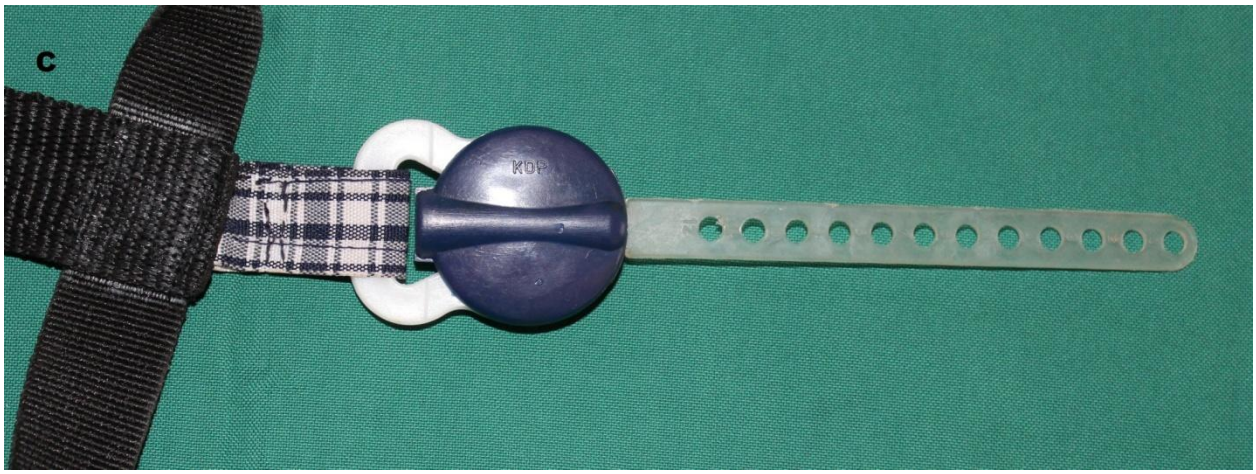
To solve these problems we have modified the design of the protraction headgear in an easy and simple manner so that both maxillary deficiency and mandibular prognathism skeletal problems can be addressed and clinicians can take benefits of both the appliances together i.e. protraction headgear and chin-cup.

II. Design and Fabrication

Firstly to make attachment with the chin-cup an 18 gauge stainless steel wire* is shaped according to the outer contour of the chin-cup component of the protraction headgear** [A]. Then the wire is attached with the chin-cup component using cold cure acrylic. The excess terminal end of the wire is cut till the desired length and the both end is bent to make hook to be attached with the force modules for force application [B].



Then one cervical headgear strap is cut into two pieces so that each piece can be stitched with the original protraction headgear strap. The point of stitching on the protraction headgear strap is carefully marked before stitching so that the force is directed through mandibular condyle [C]. One extra transverse head strap is also attached with the original headgear strap so that force decay can be prevented due to pull by the chin-cup force.



The modified protraction headgear appliance is shown on a patient with maxillary deficiency and mandibular prognathism with class III skeletal pattern [D, E].

III. Advantages

1. Very easy to fabricate and inexpensive.
2. Comfortable for the patient as force modules are not touching patient's cheek

*LEOWIRE, LEONE S.p.A. via P.aQuaracchi, 50, 50019, Sesto, Italy; www.leone.it
**Reversepull Headgear KDP; www.desiresortho.com

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