

# Orthognathic-Orthodontic Management of a Skeltal Class III Patient : A Case Report

**Dr. Priyanka Subhash Udeshi**

PG Student

Department of Orthodontics and Dentofacial Orthopaedics

**Dr. Suraj Prasad Sinha**

PG Student

Department of Orthodontics and Dentofacial Orthopaedics

**Dr. M S Ravi**

Professor & HOD

Department of Orthodontics and Dentofacial Orthopaedics

**Dr.U S Krishna Nayak**

Principal & Dean

A B Shetty Memorial Institute of Dental Sciences

Mangalore

## Abstract

The present case report describes the Orthodontic-Surgical treatment of a 19-year-old non growing male patient having Skeletal Class III due to Mandibular Prognathism and Maxillary Deficiency along with Angles class III malocclusion and compromised facial esthetics. The case had a significant sagittal and transverse discrepancy with a concave profile and strained lip closure. The treatment objectives were to correct the Skeletal Class III malocclusion and with that establish an Orthognathic profile along with ideal overjet and overbite and proper masticatory function. The objectives were achieved with the combination of Orthodontics- Surgical treatment wherein a Bilateral Sagittal Split Osteotomy for Mandibular Advancement was performed along with Malar augmentation for Midface Deficiency. The Orthodontic procedure which was combined with the above Surgical procedure helped in achieving favourable occlusion, harmonious soft tissue profile and function.

**Keywords:** Combined Orthodontics- Surgical treatment , Class III malocclusion, Malar augmentation.

## Introduction

**S**keletal Class III can arise due to three causes: Mandibular Excess, Maxillary Deficiency, or a combination of both. Patients seek treatment to achieve a harmonious facial profile due to compromised esthetics. In adults seeking treatment, the best treatment is a multidisciplinary treatment that will provide functional and esthetic benefit to the patient. The options may be a compensatory or combined treatment, consisting of Orthodontic-Surgical treatment that may require Mandibular Setback, Maxillary Advancement or a combination of both.

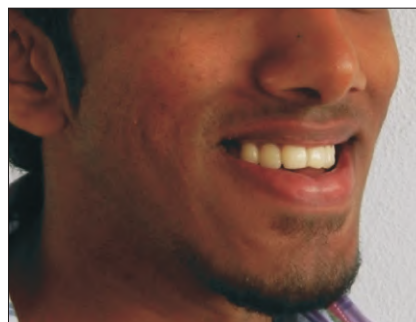
## Case Report

A 19 year old male patient reported to the department with the chief complaint of forwardly placed lower jaw. The patient did not have any relevant medical history.

## Clinical Examination

**Extraoral Examination :** Skeletal Class III with a concave profile due to Prognathic Mandible and Retognathic Maxilla. Vertical growth pattern and increased lower facial height was seen.

## Pre Treatment Extra-Oral Photographs



Oblique Profile (Smiling)



Front Profile (Smiling)



Right Profile



Left Profile

**Intraoral Examination :** All permanent teeth upto second molars were present in both arches with Angle's Class III malocclusion seen bilaterally. Severe Anterior crossbite and mild posterior crossbite was seen. Negative Overjet of around 5 mm and anterior openbite of 2 mm was seen. Mild lower arch crowding was seen. Moderate buccal crowding was seen in both arches.

**Pre Treatment Intra-Oral Photographs**



Front Intra Oral



Right Intra Oral



Left Intra Oral



**Lower Occlusal**



**Upper Occlusal**

**Radiographic Examination :** It confirmed a Skeletal Class III pattern due to Prognathic Mandible and Retrognathic Maxilla with a negative ANB.

Patient showed a tendency towards vertical growth pattern with increased FMA.

Lower facial height is increased that is ANS - Me increased.

Upper incisors were proclined with respect to NA and lower incisors were retroclined with respect to the mandibular plane.

**Problem List**

- Skeletal class III due to Prognathic Mandible and Retrognathic Maxilla.
- Concave profile
- Angle's Class III malocclusion
- Anterior and posterior crossbite
- Increased lower facial height
- Anterior open bite
- Mild lower and upper arch crowding

**Treatment Plan**

Non-Extraction treatment plan with 0.022" MBT bracket system.

Pre Surgical Orthodontics included initial Leveling and aligning along with Surgical decompensation

Surgical Plan included Bilateral Sagittal Split Osteotomy for Mandibular Setback with Malar Augmentation for Maxillary Defecency.

Post Surgical Orthodontics included Finishing and Detailing of Occlusion. It was followed by a retention phase with upper and lower Hawleys retainer.

**Pre -Surgical Extraoral Photographs**



Front Profile (Smiling)



Right Profile



Left Profile

**Pre-surgical Intra Oral Photographs**



Front Intra Oral



Right Intra Oral



Oblique Profile (Smiling)





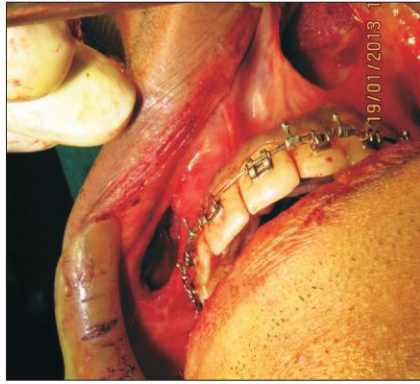
**Left Intra Oral**



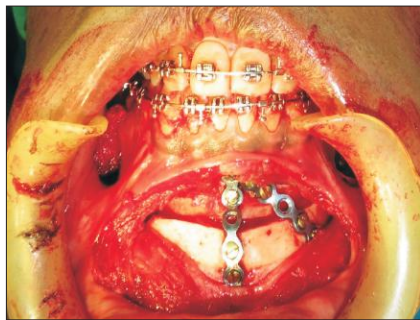
**Lower Occlusal**



**Upper Occlusal**



**Right Profile**



**Left Profile  
Post Treatment Intraoral Photographs**

**During Surgery  
Post Treatment Extraoral Photographs**



**Oblique Profile (Smiling)**



**Front Profile (Smiling)**



**Front Intra Oral**



**Right Intra Oral**



**Left Intra Oral**



**Lower Occlusal      Upper Occlusal      Retention**

**Post Treatment Outcome**

Orthodontic- Surgical management of Skeletal Class III has shown a successful outcome. It led to significant facial, dental and functional improvement. The dental relationship achieved was good. Facially, vertical balance and harmony were obtained and this was perhaps the most important goal achieved, because it was the patient's chief concern.

**References**

References are available on request at [editor@healtalkht.com](mailto:editor@healtalkht.com)

