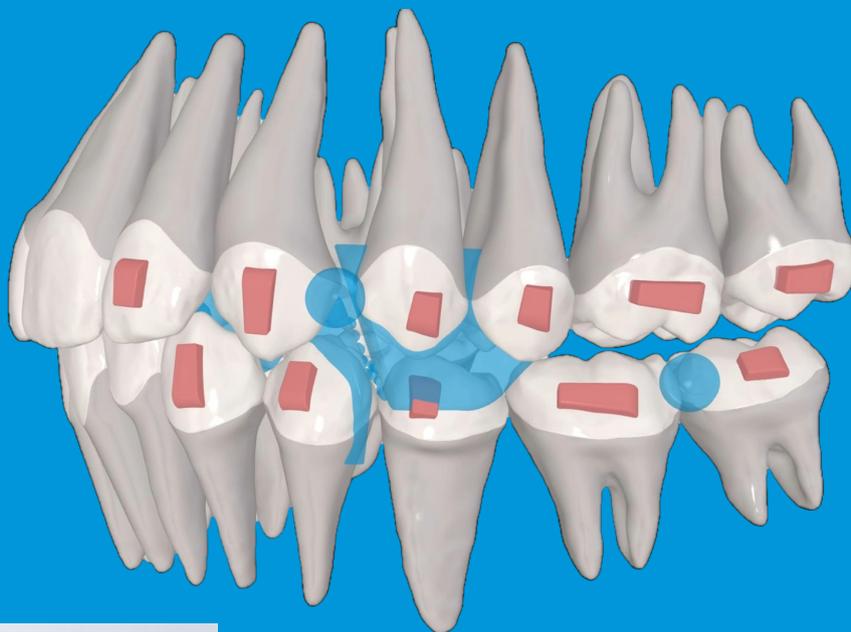


Case Report

Correction of mandibular retrusion in growing patients with A6 mandibular advancement



Dr Giacomo Scuzzo
Orthodontist

No need to hide your smile
Angel Aligner is here

A6 Mandibular advancement

Introduction

Angel Aligner A6 Mandibular Advancement is a groundbreaking solution that combines orthopedic and orthodontic treatment into a single, efficient process. Unlike traditional approaches that often involve separate phases for jaw growth modification and tooth alignment, A6 seamlessly integrates both aspects. By incorporating strategically designed occlusal blocks into the aligners, A6 gently guides the mandible forward while simultaneously correcting tooth malposition and refining the bite. This innovative approach not only streamlines treatment but also enhances patient comfort and compliance by minimizing the need for multiple appliances and frequent adjustments.

The orthopaedic and orthodontic treatment of the convex anomaly caused by mandibular deficiency is a breakthrough point to correct the bone deformity and complete the correction of tooth malposition and achieve bite reconstruction. Open the bite by forming an occlusal block to complete the correction and alignment of the malpositioned teeth. The treatment phase is combined into one, which greatly improves the treatment efficiency and reduces the course of treatment.

Indication suggestion: all cases suitable for the use of Twin-Block appliances.

Note: the following indications are for clinicians' reference only. Whether the specific cases are suitable for using A6 solution is determined by clinicians.

1. Mainly suitable for children and adolescents during the period of growth and development.
2. Functional class II malocclusion.
3. Mild to moderate skeletal class II malocclusion.

Indication

Diagnostic analysis of indications

Age

Mainly suitable for children and adolescents during the period of growth and development:

- **Rapid growth period:** girls 9-10 years old, boys 11-12 years old
- **Growth peak:** girls 11-13 years old, boys 14-15 years old
- **Growth deceleration period:** girls 14 years old, boys 16 years old

Functional Class II malocclusion

There may be intraoral occlusal interference: maxillary arch stenosis, lingual inclination of maxillary anterior teeth, individual tooth crossbite, individual tooth lingual malposition, buccal crossbite, etc.

Accompanied by bad lip and tongue habits and muscle function disorders: biting the lower lip (upper anterior teeth proclined, lower anterior teeth lingually tipped), mouth breathing, etc.

Mild to moderate skeletal Class II malocclusion

Anteroposterior: skeletal class II malocclusion - the maxilla is basically normal or with mild protrusion, the mandible is underdeveloped or the position is backward, and the profile is improved after mandible protrusion.

Vertical: average-angle or low-angle; used in high-angle cases with caution; the lower third is slightly shorter.

Section

Product

Malocclusion

Protocolos and features



Class II division 1 malocclusion

KiD1

A6 Correction of Mandibular Retrusion in Growth phase patient | Skeletal Class II | Class II Division 1 malocclusion | Deep bite | Mixed dentition

A6 Mandibular advancement

BIO Giacomo Scuzzo

Degree in Dentistry and Dental Prosthetics from the European University of Madrid (Spain).

Specialised in Orthodontics at the University of Ferrara (Italy).

Scholarship holder in Digital Orthodontics at the Postgraduate in Orthodontics, University of Ferrara (Italy).

Orthodontic Masters in Tweed, MBT, Bi-Dimensional and Damon technique.

Professional activity exclusively to Aesthetic Orthodontics, with special interest in Lingual Orthodontics and Aligners.

Dr Scuzzo has spoken and published in Italy and abroad on Lingual Orthodontics, Aligners and Hybrid Techniques.

- Adjunct Professor in Digital Orthodontics at the Postgraduate in Orthodontics, University of Ferrara (Italy)
- Adjunct Professor in Lingual Orthodontics at the Postgraduate in Orthodontics, University of Ferrara (Italy)
- Adjunct Professor in Lingual Orthodontics at the Master in Orthodontics, University of Salamanca (Spain)
- Adjunct Professor in Lingual Orthodontics at the Postgraduate in Orthodontics, University of Turin (Italy)
- Clinical Instructor at the Master in Lingual Orthodontics of the Complutense University of Madrid (Spain)

Dr. Scuzzo is President of the Italian Society of Lingual Orthodontics (AIOL)

KOL & Official Speaker for AngelAligner

- Active Member of the World Society of Lingual Orthodontics (WSLO)
- Active Member of the Italian Lingual Orthodontics Society (AIOL)
- Member of the Italian Academy of Orthodontics (AIDOR)

Patient introduction

Age

10 years old

Gender:

Male

Treatment time

9 months

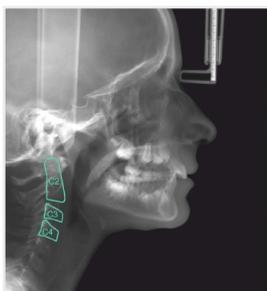
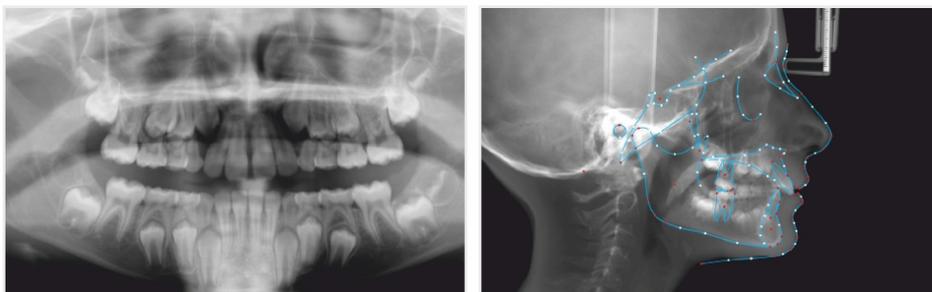
Number of aligners

25

Chief complaint

Dental spaces, Teeth forward, Incompetent lips

Initial Photos and datas



C2
C3
C4

La seconda fase (CS2)
I bordi inferiori del corpo vertebrale di C2 divengono concavi, e i corpi vertebrali di C3 e C4 rimangono trapezoidali. Indica che manca ancora circa un anno prima del picco di crescita e sviluppo.

Misurazione	Normale	Deviazione standard	Valore
FMA(LI-FH)	54.9	6.1	74.30
FMA(FH-MP)	31.3	5.0	15.44
IMPA(LI-MP)	93.9	6.2	90.26
SNA	82.3	3.5	76.53
SNB	77.6	2.9	71.41
ANB	4.7	1.4	5.12
AO-BO(Witsmm)	-1.4	2.6	5.06
OP angle(OP-FH)	10.0	2.0	2.81
Z-Angle	75.0	5.0	76.86
AFH (Anterior/Lower Facial Height mm)	64.0	0.0	51.83
PFH (Posterior Facial Height mm)	47.0	0.0	40.33

Clinical examination and diagnosis

FUNCTIONAL: Suction of the lower lip and Labial incompetence.
FACIAL: class 2 profile with Lower jaw deficit
SOFT TISSUES ANALYSIS: Upper Frenulum with low insertion
SKELETAL PATTERN: Class 2

DENTAL:

- Molar and Canine class 2 on the right side - Molar and Canine class 1 on the left side
- Upper diastema (11-21)
- Increased Overjet
- DeepBite
- Reduced Transversal Diameters
- Deviated Lower Midline 2 mm to the Right

Treatment plan

- Step 1:
- Upper Archform enlargement (dental expansion)
- Normalize Overjet/Overbite (Lower Posterior Extrusion)
- Alignment/Leveling Both Arches

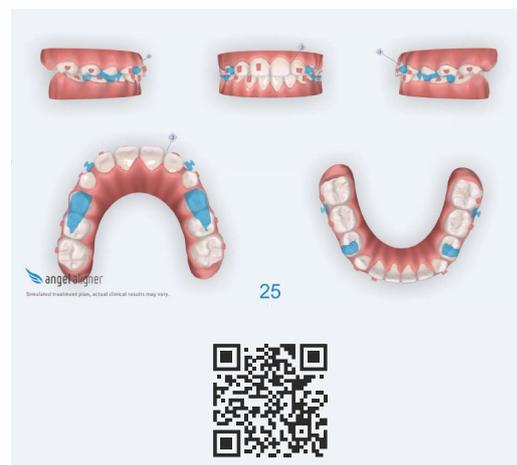
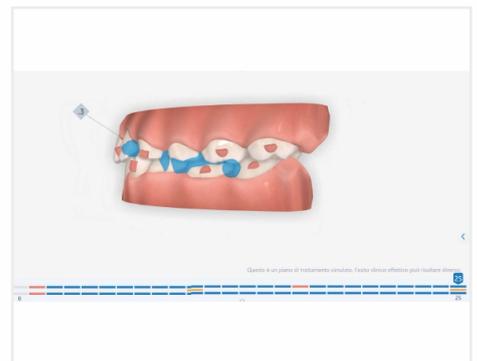
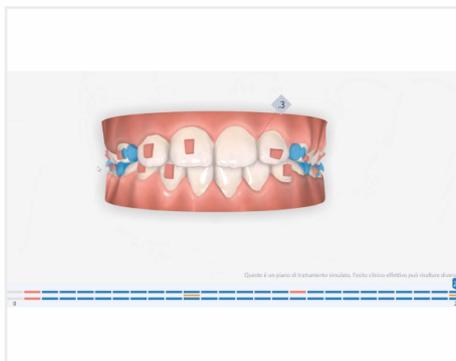
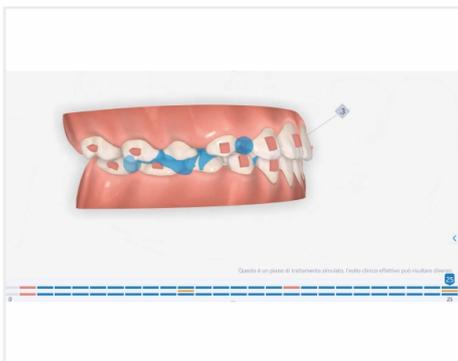
- Step 2:
- Mandibular Advancement (A6 protocol)
- + angelButton for Class 2 Elastics (Night Time)

Treatment details

AngelAligner KiD 1 (aligners changed every 10 days)

- Upper frenulum surgery
- Class 1 both sides
- Overjet/Overbite Correction

Treatment setup



Treatment
progress



Treatment results

Before treatment



After treatment



Before treatment



After treatment



Before treatment

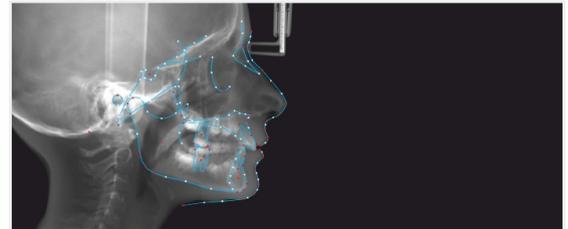


After treatment

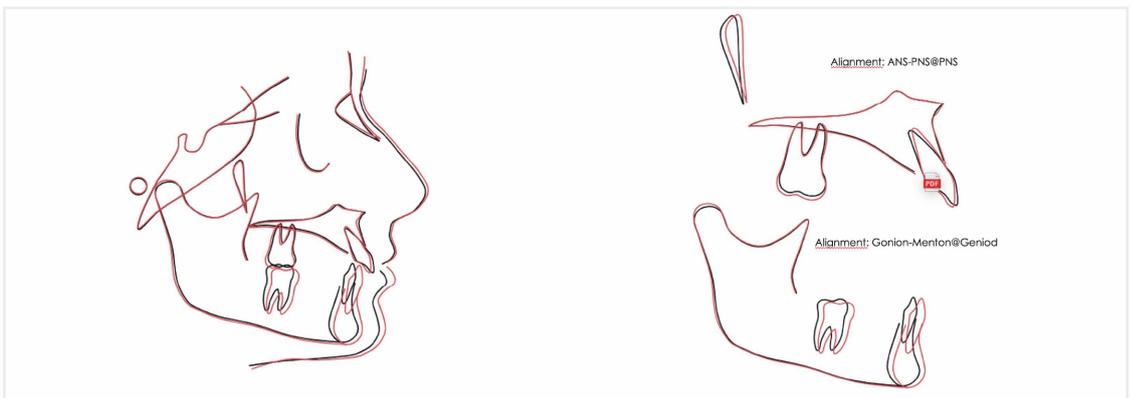
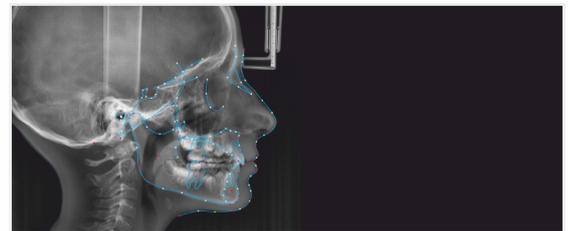


Treatment results

Before treatment



After treatment



Misurazione	Normale	Deviazione standard	Valore
FMA(LI-FH)	54.9	6.1	73.23
FMA(FH-MP)	31.3	5.0	14.86
IMPA(LL-MP)	93.9	6.2	91.91
SNA	82.3	3.5	74.22
SNB	77.6	2.9	73.52
ANB	4.7	1.4	0.70
AO-BO(Witsmm)	-1.4	2.6	-0.18
OP angle (OP-FH)	10.0	2.0	1.51
Z-Angle	75.0	5.0	80.46
AFH (Anterior/Lower Facial Height mm)	64.0	0.0	53.14
PFH (Posterior Facial Height mm)	47.0	0.0	40.34
PFH/AFH (Facial Height Index %)	70.0	5.0	75.92

Misurazione	Normale	Deviazione standard	Valore
FMA(LI-FH)	54.9	6.1	74.30
FMA(FH-MP)	31.3	5.0	15.44
IMPA(LI-MP)	93.9	6.2	90.26
SNA	82.3	3.5	76.53
SNB	77.6	2.9	71.41
ANB	4.7	1.4	5.12
AO-BO(Witsmm)	-1.4	2.6	5.06
OP angle (OP-FH)	10.0	2.0	2.91
Z-Angle	75.0	5.0	76.86
AFH (Anterior/Lower Facial Height mm)	64.0	0.0	51.83
PFH (Posterior Facial Height mm)	47.0	0.0	40.33
PFH/AFH (Facial Height Index %)	70.0	5.0	77.81

Treatment experience

For the clinician:

Positive clinical experience especially in being able to perform 2 treatment phases in the same digital planning, paying attention to the development of the upper arch form and coordinating it with the lower in the mandibular advancement.

For the patient:

Positive patient experience using a highly aesthetic appliance combining dental alignment and a functional mandibular advancement approach. The patient never reported discomfort either in the first alignment phase or in the advancement phase with the presence of the inclined blocks.

Clinical Solution

A6 Mandibular Advancement Solution

Angel aligners with A6 occlusal blocks were designed for growing patients with retrognathic Class II malocclusions. This innovative solution represents a significant advancement in both orthopedic and orthodontic treatments, enabling simultaneous forward positioning of the mandible and tooth alignment.

Eliminate the pre-mandibular advancement phase and start advancing the mandible from aligner one

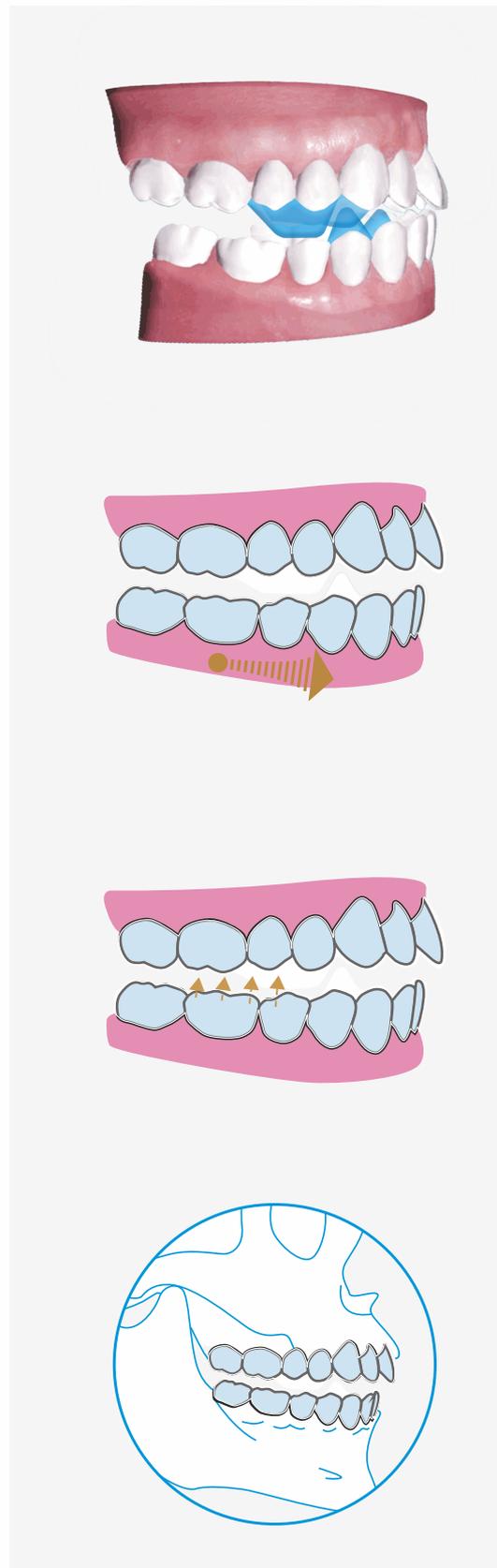
Due to the design of the A6 occlusal blocks, treatments with Angel Aligners do not require the Pre-MA initial stage. This design allows for immediate forward positioning of the mandible and simultaneous tooth alignment, potentially reducing the total number of aligners needed and shortening the overall treatment duration, offering a more efficient and streamlined orthodontic process.

Automatic occlusal coordination

The size, shape, and the location of the occlusal blocks are automatically coordinated according to the vertical height and the occlusion throughout the stages. Hence, the treatment process is simplified without any chairside adjustment to the occlusal blocks.

Combine two phases into one

Conventional orthodontic treatment typically involves two distinct stages: advancing the mandible and aligning the teeth. The Angel Aligner's A6 solution combines these two stages into a single, streamlined process. This integrated approach not only enhances orthodontic efficiency but also has the potential to shorten the overall treatment duration. Additionally, it can offer greater comfort compared to conventional appliances, making it a more patient-friendly option.





Case Report
Class II Division 1 Malocclusion

MKT-CR1-012025