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Dr. Chris Chang

DDS, PhD. ABO certified, Angle Midwest member, director of Beethoven Orthodontic Center, Taiwan

"Dr. Angle would be glad to know that contemporary orthodontics has a professional as Chris Chang!"

Prof. Dr. Paulo Fernandes Retto, Portugal

Dr. Chang received his PhD in bone physiology and Certificate in Orthodontics from Indiana University in 1996. As publisher of Journal of Digital Orthodontics-a journal for interdisciplinary dental treatment, he has been actively involved in the design and application of orthodontic bone screws.

IMPACTION

Course Schedule

DAY 1 **Chair-side observation**

DAY 2 **Lecture, chair-side observation**

Lecture topic: Screws & Aligners

DAY 3 **VISTA & 4 other minor surgeries for orthodontic practice**

Hands-on workshop

DAY 4 **Keynote workshop**

(optional) conducted by Newton's A team

VISTA

Vertical Incision Subperiosteal Tunnel Access

Severe Class III Malocclusion with Anterior Crossbite and Anterior Crowding: Camouflage Treatment with Premolar Extractions

Abstract

History: *A 33-year-old male presented with chin protrusion and crossbite.*

Diagnosis: *A skeletal Class III relationship (SNA, 81˚; SNB, 85.5˚; ANB, -4.5˚) along with a full-cusp Class III molar and canine relationships were noted. Dental analysis revealed retroclined upper central incisors (U1-to-NA, 9 mm; U1-to-SN, 103.5˚) and retroclined lower incisors (L1-to-NB, 7 mm; L1-to-MP, 83.5˚) with an overjet of -4 mm and an overbite of 5 mm. The facial profile was concave. The Discrepancy Index (DI) was 39.*

Treatment: *Extractions of both maxillary second premolars and mandibular first premolars were performed to create enough space for relieving the anterior crowding and retracting the mandibular arch. A passive self-ligating fixed appliance was utilized with Class III elastics, bite turbos, and open coil springs.*

Results: *After 39 months of treatment without orthognathic surgery, a near-ideal profile and satisfactory occlusal alignment were achieved. The Cast-Radiograph Evaluation score was 10, and the Pink and White esthetic score was 7. There were two main discrepancies: the upper right first premolar, lower left second premolar, and lower right first molar were rotated. In addition, the mesiobuccal cusp of the lower left second molar was 1 mm out of contact, and the distobuccal cusp was 2 mm out of contact.*

Conclusions: *This case report demonstrates that premolar extraction is crucial in treating a severe Class III malocclusion with anterior crowding. Torque selection is vital for controlling the axial inclination of incisors. Using specific brackets and Class III elastics potential torque loss was compensated. Class III elastics combined with posterior and anterior bite turbos, as well as open coil springs, effectively corrected the anterior crossbite and facilitated overjet correction while minimizing patient discomfort. (J Digital Orthod 2024;77:24-39)*

Key words:

Skeletal Class III, full-cusp Class III, anterior crowding, anterior crossbite, premolar extraction, passive self-ligating appliance, camouflage treatment

Introduction

The prevalence of Class III malocclusions varies across populations, ranging from approximately 4% in Caucasians to over 14% in Asians.[1] In Asian countries such as Japan, patients often exhibit a significantly shorter anterior cranial base, a wider gonial angle, and an increased lower anterior face height. Due to the smaller maxilla, backward rotation of the mandible is required to achieve a proper occlusion.[2] Individuals with Class III malocclusions may present with a combination of dental and skeletal discrepancies that contribute to this condition.

For adult patients with a skeletal Class III malocclusion, treatment typically involves a combination of orthodontic and surgical procedures. However, camouflage treatment can also be effective,

Jason J. Wu,
Training Resident, Beethoven Orthodontic Center (Left)
Jenny Y. Chang,
Training Resident, Beethoven Orthodontic Center (Center left)
Chris H. Chang,
Founder, Beethoven Orthodontic Center
Publisher, Journal of Digital Orthodontics (Center right)
W. Eugene Roberts,
Editor-in-Chief, Journal of Digital Orthodontics (Right)

Fig. 1: *Pre-treatment facial and intraoral photographs*

depending on the severity of the condition. Adults with a mild to moderate skeletal Class III malocclusion and a relatively good facial profile can be treated with camouflage techniques. These treatments may include tooth extractions, retraction of the mandibular dentition, and the use of Class III intermaxillary elastics. Camouflage treatment aims to procline the upper incisors and retrocline the lower incisors. The goal is to

achieve acceptable occlusion, function, and facial esthetics through dentoalveolar compensation.[3-6]

The dental nomenclature for this report is a modified Palmer notation. Upper (U) and lower (L) arches, as well as the right (R) and left (L) sides, define the four oral quadrants: UR, UL, LR, and LL. Teeth are numbered 1-8 from the midline in each quadrant, e.g., a lower right first molar is LR6.

History and Etiology

A 33-year-old male presented for an orthodontic consultation with the chief complaints of chin protrusion and crowding. Medical and dental histories were noncontributory. A clinical examination revealed a bilateral full-cusp (> 10 mm) Class III malocclusion which was further complicated by an anterior crossbite, deep bite, and midline deviation (Figs. 1 and 2). There were neither contributing dental traumas, oral habits, nor significant signs and symptoms of temporomandibular disorder (TMD).

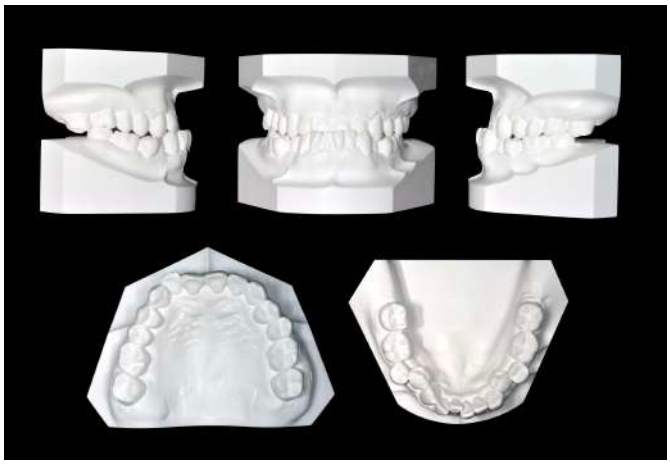

Fig. 2: *Pre-treatment study models (casts)*

Diagnosis

Facial:

- Lower facial height: *within normal limits (WNL), Na-ANS-Gn 50% (Table 1)*
- Convexity: *concave profile with protrusive chin (G-Sn-Pg', -2.5°)*
- Symmetry: *WNL*
- Smile: *Low smile line*

Skeletal:

- Skeletal Class III (SNA, 81°, SNB, 85.5°, ANB -4.5°)
- Mandibular Plane: *WNL (SN-MP, 35°; FMA, 28°)*
- Vertical Dimension of Occlusion (VDO): *WNL (Na-ANS-Gn, 50%)*
- Symmetry: *WNL*

Dental:

- Classification: *bilateral full-cusp Class III relationship*
- Overjet: *-4 mm (anterior crossbite)*
- Overbite: *5 mm (deep bite)*
- Posterior crossbite: *UR4 and UR5 in linguoversion*
- Symmetry: *upper dental midline deviated 2 mm to the right.*

The Discrepancy Index (DI) was 39 as shown in the subsequent worksheet (Worksheet 1).[7]

Treatment Objectives

The treatment objectives were to: (1) retract and posteriorly rotate the lower arch; (2) relieve the crowding in the lower anterior teeth; (3) correct the crossbite and deep bite; (4) align the upper dental midline; and (5) improve the facial profile.

Treatment Alternatives

Plan A

Orthognathic surgery is the conventional approach to correct the skeletal component of a Class III malocclusion. However, the patient refused surgery because of the hospitalization, high cost, and risk of complications.

CEPHALOMETRIC SUMMARY			
SKELETAL ANALYSIS			
	PRE-TX	POST-TX	DIFF.
SNA° (82°)	81°	81.5°	0.5°
SNB° (80°)	85.5°	84.5°	1°
ANB° (2°)	-4.5°	-3°	1.5°
SN-MP° (32°)	35°	35°	0°
FMA° (25°)	28°	28°	0°
DENTAL ANALYSIS			
U1 TO NA mm (4 mm)	9	9	0
U1 TO SN° (104°)	103.5°	110.5°	7°
L1 TO NB mm (4 mm)	7	2	5
L1 TO MP° (90°)	83.5°	80°	3.5°
FACIAL ANALYSIS			
E-LINE UL (-1 mm)	-4	-3	1
E-LINE LL (0 mm)	4	0	4
%FH: Na-ANS-Gn (53%)	50%	54%	4%
Convexity:G-Sn-Pg' (13°)	-2.5°	3.5°	6°

Table 1: *Cephalometric summary*

Plan B

Camouflage treatment is directed at occlusal correction and masking the skeletal discrepancy by: (1) extracting UR5, UL5, LR4 and LL4; (2) applying anterior and posterior bite turbos; (3) retracting the mandibular arch with Class III elastics; and (4) using open coil springs to flare out the upper anterior teeth (Fig. 3). These mechanics are designed to correct the anterior crossbite and deep bite to improve the protrusive lower lip. As the patient refused surgery, camouflage treatment was chosen for the correction of the malocclusion.

Appliances and Treatment Progress

After the prescribed extractions, a 0.022-in slot Damon Q® passive self-ligating (PSL) appliance (Ormco, Glendora, CA) was bonded on the lower teeth in the 1st month of active treatment. The upper teeth were engaged in the following month.

Fig. 3:
Bite turbos and Class III elastics (blue line) are the keys to speeding up overjet correction and shortening the period of patient discomfort.

Meanwhile, posterior bite turbos were added on L7s to align the anterior teeth. The initial archwires for both arches were 0.014-in CuNiTi. From the 2nd month of treatment, the lower archwire was changed to 0.014x0.025-in CuNiTi. To retract the lower arch, the patient was instructed to wear early light short elastics (Quail 3/16", 2 oz) from U7s through U6s to L3s. From the 6th month of treatment, the upper archwire was changed to 0.017x0.025-in TMA and the lower one to 0.016x0.025-in pre-torqued CuNiTi. To effectively correct the crossbite, anterior bite turbos were added from LR2 to LL2 and open coil springs were placed between U4s and U6s in the 7th month. The patient was instructed to wear Class III elastics (Kangaroo 3/16", 4.5 oz) from U4s to L3s. In order to speed up the space closure process, lingual buttons were bonded on U4s and U7s in the 15th month. To reduce black triangles, interproximal reduction (IPR) was performed on the incisors in the 19th month of treatment. After 39 months of active treatment, all fixed appliances were removed. Treatment and sequencing details are shown in Table 2 and Figs. 4-6.

Treatment Results

Facial esthetics, dental alignment, and intermaxillary occlusion were remarkably improved. According to the panoramic radiographs (Figs. 7 and 8), there was already bone defects around UR2, UR3, UR5-7, UL6, and UL7 before treatment, but these defects did not seem to worsen after treatment. Interestingly, the bone defect around UR2, UR3, and UR6 was improved. In addition, acceptable root parallelism was also documented. The superimposed cephalometric tracings show 7° increase of the axial

Fig. 4:
Treatment progression - frontal view from the start of treatment (0M) to the end of treatment (39M), as well as at 5-year follow-up (5Y FU)

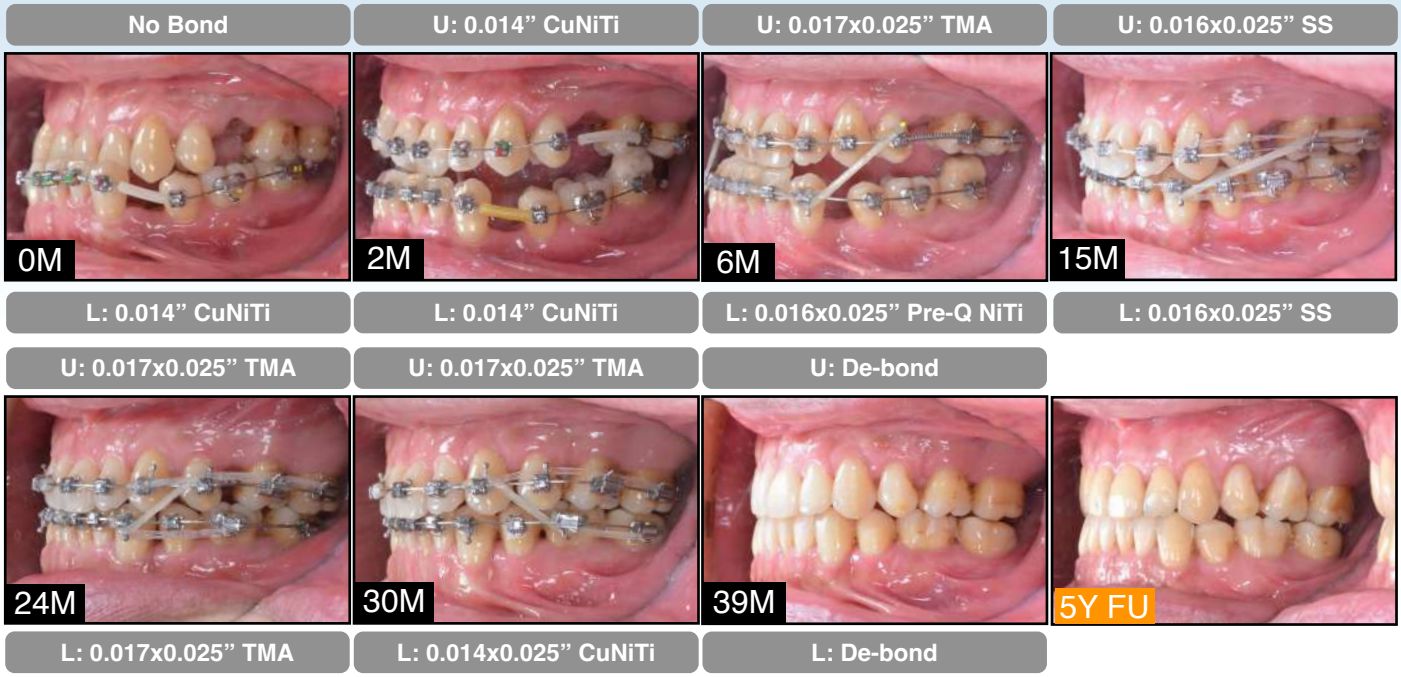

***Fig. 5**: Treatment progression - left buccal view with archwires specified in grey labels*

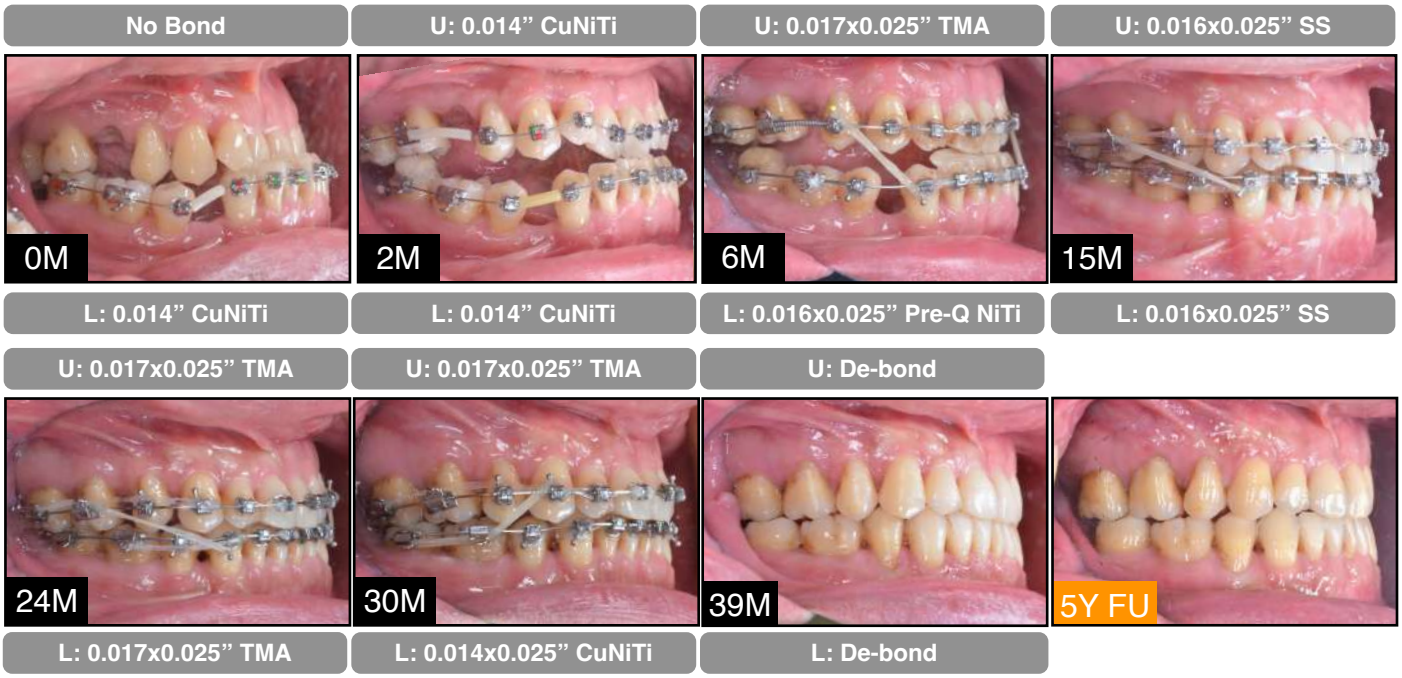

***Fig. 6**: Treatment progression - right buccal view with archwires specified in grey labels*

Month	Archwire	Notes
0	L: 0.014-in CuNiTi	Damon® appliance was bonded on the mandibular arch from LR7-LL7 except L5s.
1	U: 0.014-in CuNiTi L: 0.014-in CuNiTi	Damon® appliance was bonded on the maxillary arch from UR7-UL7 except U4s. Bite turbos were added on L7s.
2	U: 0.014-in CuNiTi L: 0.014x0.025-in CuNiTi	Bite turbos height on L7s was increased. Damon® appliance was rebounded on UR7. Bilateral elastics (Quail, 3/16 in, 2 oz) were applied from U7s through U6s to L3s.
3	U: 0.014-in CuNiTi L: 0.014x0.025-in CuNiTi	Damon® appliance was rebonded on LR2-LL2.
5	U: 0.014-in CuNiTi L: 0.016x0.025-in Pre-Q CuNiTi	Damon® appliance was rebonded on Ur2 and LR5. Bilateral elastics (Quail, 3/16 in, 2 oz) were applied from U7s and U6s to L5s.
6	U: 0.017x0.025-in TMA L: 0.016x0.025-in Pre-Q CuNiTi	Ligature ties (PTs) were inserted on UR3-UL3. Power chains (PCs) were inserted.
7	U: 0.017x0.025-in TMA L: 0.016x0.025-in Pre-Q CuNiTi	Bite turbo was added on UR2-LL2. Open coil springs (OPs) were placed between U4s and U6s.
9	U: 0.017x0.025-in TMA L: 0.016x0.025-in Pre-Q CuNiTi	Both bite turbos on L6s and LR2-LL2 were removed. PCs were inserted. Bilateral elastics (Kangaroo, 3/16 in, 4.5 oz) were applied from U4s to L3s.
10	U: 0.014x0.025-in CuNiTi L: 0.016x0.025-in SS	OPs on U4s and U6s were removed. PCs were inserted. Bilateral elastics (Kangaroo, 3/16 in, 4.5 oz) were applied from U4s to L3s.
11-14	U: 0.017x0.025-in TMA L: 0.016x0.025-in SS	PCs were inserted. Bilateral elastics (Quail, 3/16 in, 2 oz) were applied from U7s and U6s to L5s.
15	U: 0.016x0.025-in SS L: 0.016x0.025-in SS	Lingual buttons were bonded on U4s and U7s. PCs were inserted. Bilateral elastics (Quail, 3/16 in, 2 oz) were applied from U7s and U6s to L3s.
19	U: 0.016x0.025-in SS L: 0.014x0.025-in CuNiTi	Damon® appliance was rebonded on LR3, LR5, and LL5. Interproximal reduction was performed on incisors. Torquing springs were placed on L5s.
20	U: 0.014x0.025-in CuNiTi L: 0.014x0.025-in CuNiTi	Damon® appliance was rebonded on UR6, UR7, UL6, UL7, LL5, and LL6. PTs and PCs were inserted.
21	U: 0.017x0.025-in TMA L: 0.017x0.025-in TMA	Torquing springs were placed on L3s. PTs were inserted. Bilateral elastics (Fox, 1/4 in, 3.5 oz) were applied from U7s and U6s to L3s.
22	U: 0.017x0.025-in TMA L: 0.014x0.025-in CuNiTi	Damon® appliance was rebonded on LR2. Bilateral elastics (Quail, 3/16 in, 2 oz) were applied from U7s to L7s.
23	U: 0.017x0.025-in TMA L: 0.014x0.025-in CuNiTi	Damon® appliance was rebonded on LL5. PTs and PCs were inserted. Torquing springs on L3s were removed.
24	U: 0.017x0.025-in TMA L: 0.017x0.025-in TMA	PTs and PCs were inserted.
26-28	U: 0.017x0.025-in TMA L: 0.017x0.025-in TMA	PTs and PCs were inserted. Bilateral elastics (Fox, 1/4 in, 3.5 oz) were applied from U7s and U6s to L3s.

***Table 2**: Treatment sequence (continued on the next page) (Pre-Q: pre-torqued)*

Month	Archwire	Notes
29	U: 0.017x0.025-in TMA L: 0.017x0.025-in TMA	Lingual buttons were bonded on U3s. PCs were inserted. Bilateral elastics (Fox, 1/4 in, 3.5 oz) were applied from U3s to L6s and L7s.
30	U: 0.017x0.025-in TMA L: 0.014x0.025-in CuNiTi	Damon® appliance was rebonded on L5s. PCs were inserted.
31	U: 0.017x0.025-in TMA L: 0.017x0.025-in TMA	Damon® appliance was rebonded on LR5. Torquing springs were placed on L5s. Bilateral elastics (Fox, 1/4 in, 3.5 oz) were applied from U3s to L6s and L7s.
32	U: 0.017x0.025-in TMA L: 0.014x0.025-in CuNiTi	Damon® appliance was rebonded on LR5. PTs and PCs were inserted.
33	U: 0.017x0.025-in TMA L: 0.017x0.025-in TMA	Torquing spring was placed on LR5. PTs and PCs were inserted. Bilateral elastics (Fox, 1/4 in, 3.5 oz) were applied from U3s to L6s and L7s.
34-36	U: 0.017x0.025-in TMA L: 0.017x0.025-in TMA	PTs and PCs were inserted. Elastics (Fox, 1/4 in, 3.5 oz) were applied from UR1 and UL1 to LL3 and LL6.
39		Debond

Table 2: *Treatment sequence (continued from the previous page)*

inclination of the upper incisors (U1-SN) (103.5˚ to 110.5˚), while that of the lower incisors (L1-MP) was relatively well-maintained (83.5˚ to 80˚) (Figs. 9-11). Moreover, the mandibular arch was retracted about 8 mm, and the lower lip was retracted about 4 mm, coinciding with the E-line.[8] The Cast-Radiograph Evaluation (CRE) score was 10 points, as shown in the supplementary Worksheet 2.[9] The major discrepancies were rotations and occlusal contacts. (Figs. 12 and 13) Teeth with rotations were UR4, LL6, and LR5. The LL5 buccal cusp was 2 mm out of contact. Especially note that the LL7 mesiobuccal cusp was 1 mm out of contact and the distobuccal cusp 2 mm out of contact. The Pink and White dental esthetic score was 7 points (Worksheet 3).[10] Although the contact area scored 2 points, the patient was very satisfied with the result.

Fig. 7: *Pre-treatment panoramic radiograph*

Fig. 8: *Posttreatment panoramic radiograph*

Fig. 9: Pre-treatment panoramic radiograph

Fig. 10: Posttreatment panoramic radiograph

Retention

Fixed lingual retainers were placed on all maxillary incisors and from canine to canine in the mandibular arch. Clear overlay retainers were delivered for both arches. The patient was instructed to wear them full time for the first 6 months and nights only thereafter. Instructions were provided for home hygiene, as well as for maintenance of the retainers.

Discussion

Extraction Considerations

Creating additional space within the dental arch is essential for managing crowding or achieving camouflage result. Common methods include interproximal reduction (IPR), extraction, and arch expansion.[11] When performing camouflage treatment, extraction can effectively compensate for skeletal discrepancies.[12] Typically, molars and/or premolars are chosen for extraction in Class III cases. Molar extraction provides more space (10-11 mm) for retraction compared to premolar extraction (7 mm), although closing molar extraction spaces is more time-consuming and may lead to anterior crowding. Premolar extraction effectively relieves crowding in the anterior segment, despite potentially causing more torque loss in lower incisors than molar extraction does.[12,13] When dealing with severe anterior crowding in Class III malocclusion cases, extracting the upper second premolars and lower first premolars is commonly recommended.

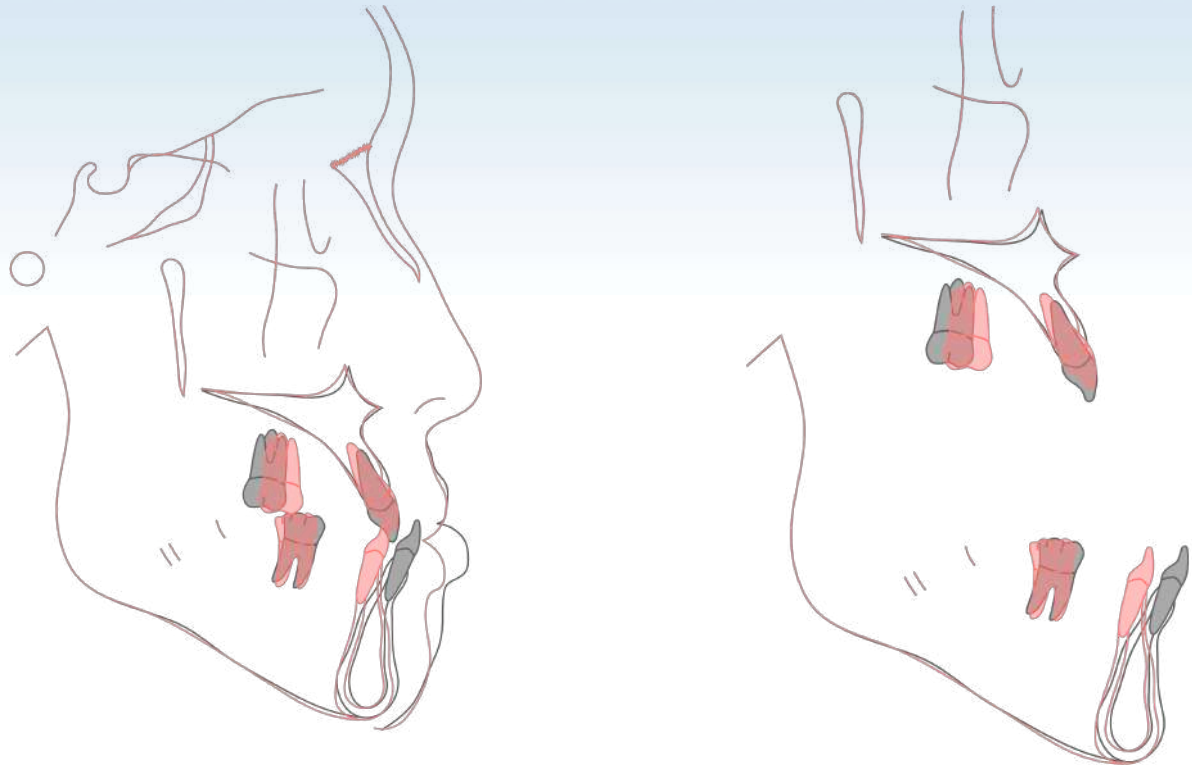

Fig. 11:
Pre- (black) and posttreatment (red) cephalometric tracings are superimposed on the anterior cranial base (left), the maxilla (upper right), and the stable internal structures of the mandible (lower right). See text for details.

Torque Selection and Control

Class III camouflage treatments typically involve proclining the maxillary incisors and retroclining the mandibular incisors to improve the dental occlusion. Differential bracket torque selection is crucial for controlling the axial inclination of these teeth.[14] Normally, low-torque brackets are used for upper anterior teeth and high-torque brackets are selected for lower anterior teeth to compensate for potential side effects from the mechanics of Class III elastics. Since high-torque brackets are unavailable in the Damon system for lower anterior teeth, upside-down low-torque brackets were used to elicit such effect. The mechanics of Class III elastics compensated for the upper anterior torque loss resulting from upper premolar extraction. Hence, for this patient, standard-torque brackets were chosen for upper anterior teeth (Fig. 14). Alternatively, high-torque brackets could also be an option for upper anterior teeth. Class II elastics were applied to increase the lower incisor torque while reducing the upper incisor torque after correcting the negative overjet from the 29th to the 33rd month. Varying bracket torque facilitated differential moment delivery using rectangular leveling archwires early in the treatment. When a rectangular archwire fails to provide sufficient torque, a pre-torqued Ni-Ti archwire (0.016x0.025"/ 0.019x0.025" with 20° torque) is recommended to achieve favorable facial root torque.[15,16] In this case,

Fig. 12: *Posttreatment facial and intraoral photographs*

a 0.016x0.025 pre-torqued Ni-Ti archwire was used on the mandibular arch from the 5th to the 9th month, resulting in satisfactory torque control of the lower incisors as shown in the superimposed cephalometric tracings (Fig. 11).

Correction of Anterior Crossbite

Class III elastics were utilized to correct the anterior crossbite, in combination with posterior bite turbos to initiate the treatment. Posterior bite turbos were placed on the lower molar occlusal surfaces to open the bite.[17,18] Anterior bite turbos on the lingual side of the lower incisors were only added to facilitate overjet correction after the lower incisors were aligned. Minimizing patient discomfort is crucial, especially considering that jumping the bite can lead to discomfort. Open coil springs placed between the upper first premolar

and upper first molar bilaterally facilitated overjet correction by flaring the upper anterior teeth (Fig. 10). The treatment mechanics incorporated Class III elastics, bite turbos, and open coil springs, making the correction process more manageable and less painful for the patient.

Timing of Bracket Torque Expression

High torque was prescribed for the lower anterior teeth, and was achieved by bonding low torque brackets upside down as high torque brackets are unavailable in the Damon system. In the beginning of the treatment, a 0.014" CuNiTi archwire was used. As the archwire was round, bracket torque had very little effect on the teeth. Therefore, after transitioning to a 0.014x0.025 CuNiTi wire in the 3rd month (Fig. 15), the brackets on the lower incisors were rebonded for the rectangular archwire to engage and activate the bracket torque, ensuring effective torque expression to counteract the side-effect of Class III elastics.

Conclusions

Creating additional space within the dental arch is essential for managing crowding or achieving camouflage arch retraction, with premolar extraction being effective in addressing the anterior crowding. Differential bracket torque is crucial for controlling incisor axial inclination when camouflaging Class III malocclusions, with specific brackets and Class III elastics compensating for torque loss. Class III elastics, along with posterior and anterior bite turbos and open coil springs are effective in correcting an anterior crossbite and

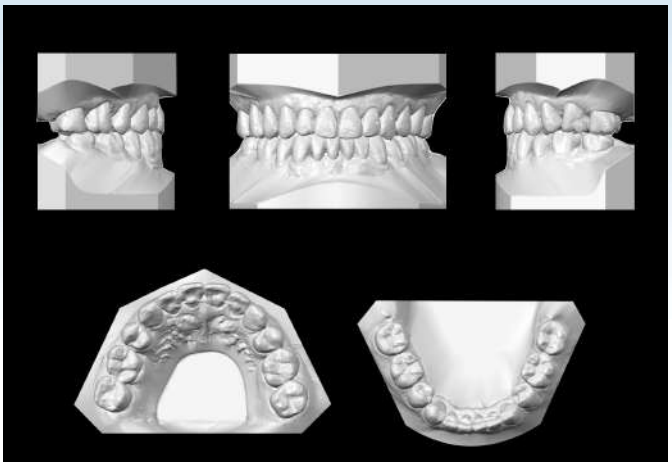

***Fig. 13**: Posttreatment study models (casts)*

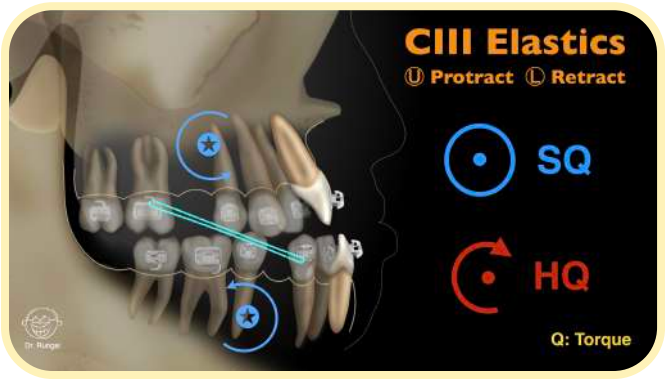

Fig. 14:
Standard-torque brackets for upper and high-torque brackets for lower anterior segments compensated the side effects of Class III elastics.

Fig. 15:
The brackets on lower incisors were rebonded for the rectangular archwire to activate the bracket torque in the 3rd month.

facilitating overjet correction while minimizing patient discomfort.

Acknowledgments

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Discrepancy Index Worksheet

TOTAL D.I. SCORE **39**

OVERJET

0 mm. (edge-to-edge)	=	
1 - 3 mm.	=	0 pts.
3.1 - 5 mm.	=	2 pts.
5.1 - 7 mm.	=	3 pts.
7.1 - 9 mm.	=	4 pts.
> 9 mm.	=	5 pts.

Negative OJ (x-bite) 1 pt. per mm. Per tooth = 7

Total = **7**

OVERBITE

0 - 3 mm.	=	0 pts.
3.1 - 5 mm.	=	2 pts.
5.1 - 7 mm.	=	3 pts.
Impinging (100%)	=	5 pts.

Total = **2**

ANTERIOR OPEN BITE

0 mm. (Edge-to-edge), 1 pt. per tooth
Then 1 pt. per additional full mm. Per tooth

Total = **0**

LATERAL OPEN BITE

2 pts. per mm. Per tooth

Total = **0**

CROWDING (only one arch)

1 - 3 mm.	=	1 pt.
3.1 - 5 mm.	=	2 pts.
5.1 - 7 mm.	=	4 pts.
> 7 mm.	=	7 pts.

Total = **7**

OCCLUSION

Class I to end on	=	0 pts.
End on Class II or III	=	2 pts. per side _____ pts.
Full Class II or III	=	4 pts. per side 8 pts.
Beyond Class II or III	=	1 pt. per mm. 3+4 pts. additional

Total = **15**

LINGUAL POSTERIOR X-BITE

1 pt. per tooth Total = **2**

BUCCAL POSTERIOR X-BITE

2 pts. Per tooth Total = **0**

CEPHALOMETRICS (See Instructions)

ANB ≥ 6° or ≤ -2° = 4 pts.

Each degree < -2° 2 x 1 pt. = 2

Each degree > 6° _____ x 1 pt. = _____

SN-MP

≥ 38° = 2 pts.

Each degree > 38° _____ x 2 pts. = _____

≤ 26° = 1 pt.

Each degree < 26° _____ x 1 pt. = _____

1 to MP ≥ 99° = 1 pt.

Each degree > 99° _____ x 1 pt. = _____

Total = **6**

OTHER (See Instructions)

Supernumerary teeth	_____ x 1 pt.	=
Ankylosis of perm. Teeth	_____ x 2 pts.	=
Anomalous morphology	_____ x 2 pts.	=
Impaction (except 3rd molars)	_____ x 2 pts.	=
Midline discrepancy (≥ 3mm)	@ 2 pts.	=
Missing teeth (except 3rd molars)	_____ x 1 pt.	=
Missing teeth, congenital	_____ x 2 pts.	=
Spacing (4 or more, per arch)	_____ x 2 pts.	=
Spacing (Mx cent. diastema ≥2mm)	@ 2 pts.	=
Tooth transposition	_____ x 2 pts.	=
Skeletal asymmetry (nonsurgical tx)	@ 3 pts.	=
Addl. treatment complexities	_____ x 2 pts.	=

Identify:

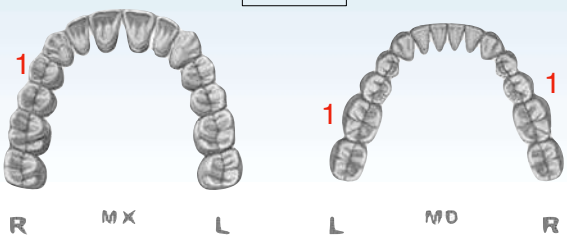
Total = **0**

Cast-Radiograph Evaluation

Total Score: 10

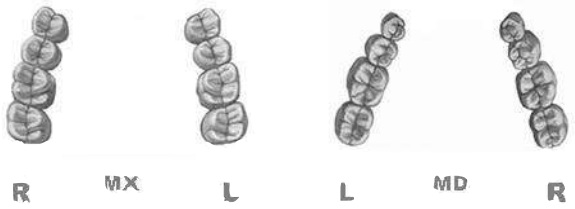
Alignment/Rotations

3



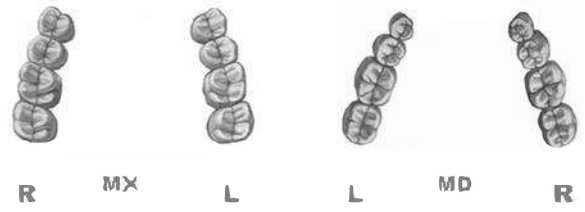
Marginal Ridges

0



Buccolingual Inclination

0

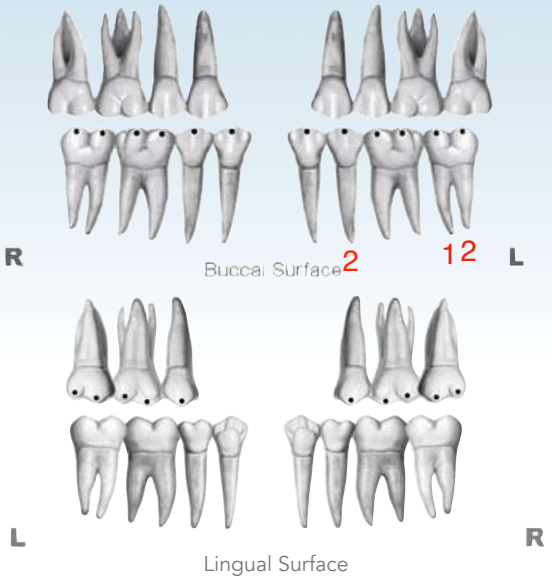


Overjet

1

Occlusal Contacts

5

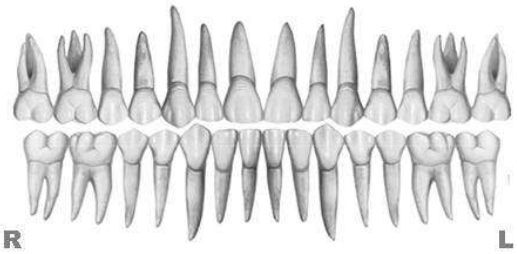


Occlusal Relationships

1

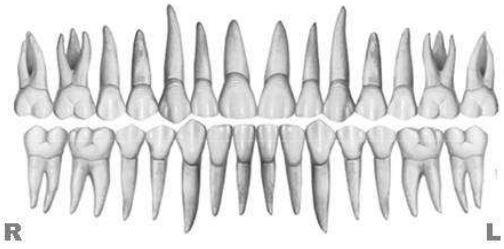
Interproximal Contacts

0



Root Angulation

0



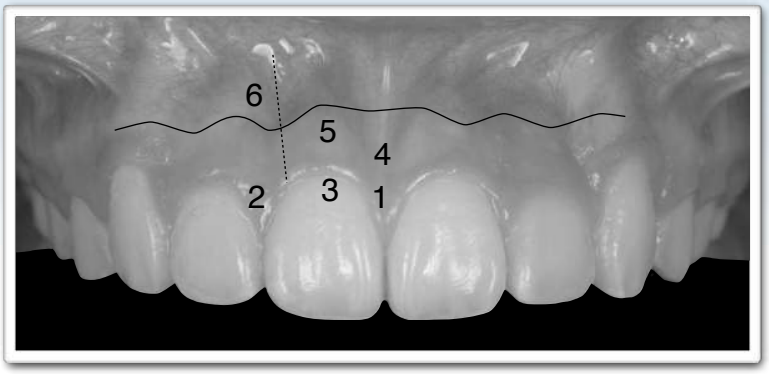
INSTRUCTIONS: Place score beside each deficient tooth and enter total score for each parameter in the white box. Mark extracted teeth with "X". Second molars should be in occlusion.

IBOI Pink & White Esthetic Score

Total Score = 7

1. Pink Esthetic Score

Total = 2

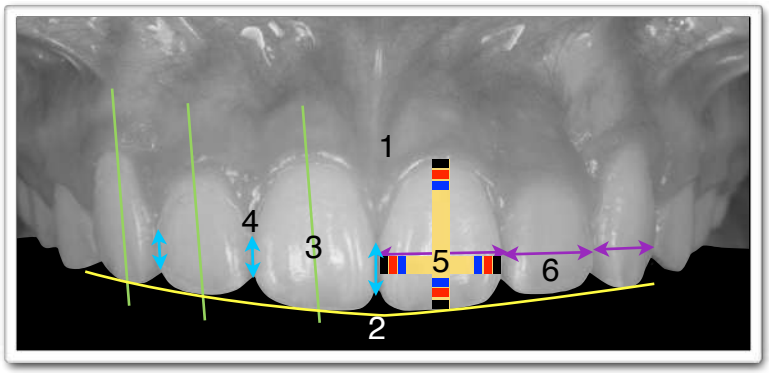


1. M & D Papillae	0	1	2
2. Keratinized Gingiva	0	1	2
3. Curvature of Gingival Margin	0	1	2
4. Level of Gingival Margin	0	1	2
5. Root Convexity (Torque)	0	1	2
6. Scar Formation	0	1	2

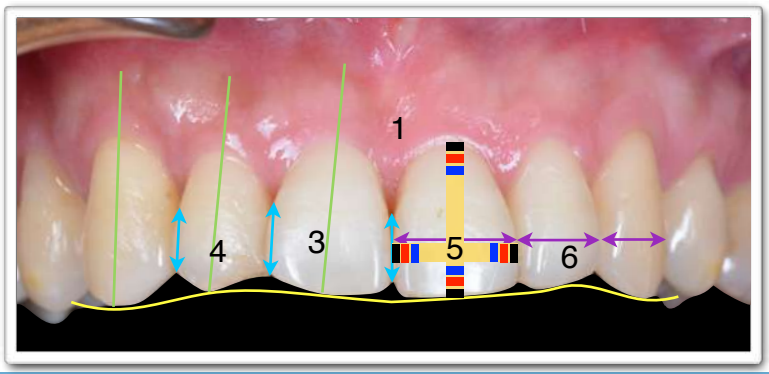
1. M & D Papillae	0	(1)	2
2. Keratinized Gingiva	0	(1)	2
3. Curvature of Gingival Margin	(0)	1	2
4. Level of Gingival Margin	(0)	1	2
5. Root Convexity (Torque)	(0)	1	2
6. Scar Formation	(0)	1	2

2. White Esthetic Score (for Micro-esthetic)

Total = 5



1. Midline	0	1	2
2. Incisor Curve	0	1	2
3. Axial Inclination (5°, 8°, 10°)	0	1	2
4. Contact Area (50%, 40%, 30%)	0	1	2
5. Tooth Proportion	0	1	2
6. Tooth to Tooth Proportion	0	1	2



1. Midline	(0)	1	2
2. Incisor Curve	0	(1)	2
3. Axial Inclination (5°, 8°, 10°)	0	(1)	2
4. Contact Area (50%, 40%, 30%)	0	1	(2)
5. Tooth Proportion	(0)	1	2
6. Tooth to Tooth Proportion	0	(1)	2

International Association for Orthodontists & Implantologists

Join the *iAOI* the future of dentistry!

About our association-iAOI

International Association of Orthodontists and Implantologists (iAOI) is the world's first professional association dedicated specifically for orthodontists and implantologists. The Association aims to promote the collaboration between these two specialties and encourage the combined treatment of orthodontic and implant therapy in order to provide better care for our patients.

How to join iAOI?

Certified members of the Association are expected to complete the following three stages of requirements.

1. Member

Doctors can go to http://iaoi.pro to apply for membership to join iAOI. Registered members will have the right to purchase a workbook in preparation for the entry exam.

2. Board eligible

All registered members can take the entry exam. Members will have an exclusive right to purchase a copy of iAOI workbook containing preparation materials for the certification exam. The examinees are expected to answer 100 randomly selected questions out of the 400 ones from the iAOI workbook. Those who score 70 points or above can become board eligible.

3. Diplomate

Board eligible members are required to present three written case reports, one of which has to be deliberated verbally. Members successfully passing both written and verbal examination will then be certified as Diplomate of iAOI.

4. Ambassador

Diplomates will have the opportunity to be invited to present six ortho-implant combined cases in the iAOI annual meeting. Afterwards, they become Ambassador of iAOI and will be awarded with a special golden plaque as the highest level of recognition in appreciation for their special contribution.

For more information on benefits and requirements of iAOI members, please visit our official website: http://iaoi.pro.

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國際矯正植牙大使與院士

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Dr. Kenji Ojima◆

Dr. 林詩詠 Joshua Lin *▲

Dr. Diego Peydro Herrero◆

Dr. 陳俊宏 Chun-Hung Chen *▲

Dr. 張銘珍 Ming-Jen Chang *

Dr. 曾令怡 Linda Tseng *▲

Ambassador（大使）:

- * *One who has published 9+ case reports in JDO.*
- ◆ *Keynote speakers for iAOI annual workshops*
- ▲ *Case report(s) published at least once in referral journals.*
- ● *Referral journals/Research paper - 3 points*
  ABO case report - 2 points
  Clinical tip - 1 point

Diplomates

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Dr. 李雙安 Angle Lee ▲

Dr. 蘇筌瑋 Bill Su

Dr. 葉信吟 Hsin-Yin Yeh ▲

Dr. 徐重興 Eric Hsu ▲

Dr. 黃育新 Yu-Hsin Huang

Dr. 黃祈 Richie Huang

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