Extruding Crowded and Rotated Maxillary Lateral Incisors with Clear Aligners

Abstract

***History**: A 22-yr-7-mo-old female presented with chief complaints of poor dental esthetics and infra-occlusion, defined as intruded position relative to the occlusal plane.*

***Diagnosis**: Normal skeletal and dental relationships were associated with mild anterior crowding in both arches. Upper lateral incisors (UR2 and UL2) were in infra-occlusion, tipped labially, and rotated mesial-out. The Discrepancy Index (DI) was 22.*

***Treatment**: The ClinCheck® software was used to design Invisalign® clear aligners (Align Technology, Inc., San Jose, CA, USA) for correction of the moderate anterior alignment problems. Attachments were bonded on all teeth as indicated. Interproximal reduction (IPR) was specified as needed. During active treatment, the maxillary arch was expanded, but the aligners went off-track on the UL2. Additional aligners were designed with improved retention to extrude the UL2 and align the entire dentition as needed.*

***Results**: Alignment of the dentition was near ideal. The Cast-Radiograph Evaluation (CRE) score was 3, and the Pink and White dental esthetic score was 0.*

***Discussion**: Extruding lateral incisors in the presence of crowding requires extensive IPR. Adequate space for incisor alignment is required to avoid off-tracking due to distortion and poor retention of the aligners. Auxiliaries and horizontal rectangular attachments help ensure better aligner retention and interproximal confirmation.*

***Conclusions**: Clear aligners, with specified attachments and IPR, can efficiently align labially tipped, rotated, and intruded maxillary lateral incisors. (J Digital Orthod 2020;60:84-99)*

Key words:
Invisalign®, clear aligner treatment, extrusion, lateral incisor, interproximal reduction

Introduction

Anterior open bite is described as a very challenging malocclusion because of the high tendency to relapse.[1] Clear aligners are effective mechanics for anterior open bite correction because there is a double layer of aligner material on the occlusal surfaces.[2] On the other hand, it is difficult to axially extrude incisors to close the bite, particularly if the dentition is crowded.[3] Kravitz et al.[4] reported the average success for achieving a desired extrusion of maxillary central and lateral incisors was only 18.3% and 28.4%, respectively. Optimal mechanics with aligners requires excellent retention on malaligned teeth. Composite resin attachments are bonded on enamel surfaces as specified by the virtual treatment planning program, ClinCheck® (*Align Technology, Inc., San Jose, CA, USA*). Proper treatment planning with digital simulations is effective for dento-alveolar correction of open bite with clear aligners.[5-7]

Teeth with attachments can be rotated with clear aligners, but dissipation of force towards the gingival margin of the aligner may produce an intrusive "*side*

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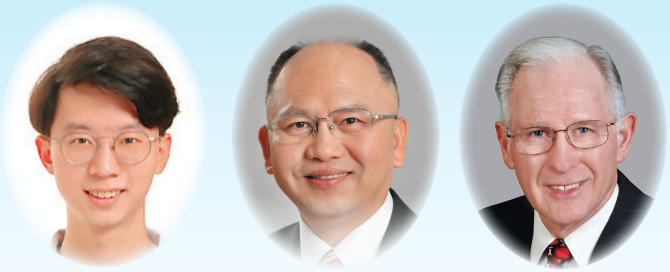

effect."[8,9] This undesirable sequelae is accentuated by a loss of tracking.[10,11] To facilitate complex tooth movement, optimized attachments are proposed by Invisalign® (*Align technology, Inc., San Jose, CA, USA*) to provide active force along the desired path of tooth movement.[12]

This article reports a clear aligner method for aligning flared, rotated, and intruded (*infra-version*) upper lateral incisors in a crowded arch. The selective interproximal reduction (*IPR*) of enamel, as well as the required mechanics with optimized attachments, is specified with ClinCheck®.

The dental nomenclature for this report is a modified Palmer notation. Upper (*U*) and lower (*L*) arches, as well as right (*R*) and left (*L*) sides, define 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.

Fig. 1: Pre-treatment facial and intraoral photographs

History and Etiology

A 22-yr-7-mo-old female presented with a chief complaint of poor dental esthetics. Pretreatment intraoral photographs, dental models, and radiographs are shown in Figs. 1-4. Clinical examination revealed a straight lateral profile, and the central incisors were in edge-to-edge occlusion. There was anterior open bite of 3 and 5mm for the right and left upper lateral incisors (*UR2, UL2*) respectively. From the occlusal view, UR2 showed a 30˚ mesial-out rotation, causing a 3mm overjet and openbite. A 45˚ mesial-out rotation and 4mm overjet with openbite was noted for the UL2. The long axis of UL2 also showed a 30˚ mesial tip from the profile perspective (*Fig. 5*). There was no midline deviation, but intra-oral examination revealed 6mm of crowding, primarily related to the mesially-rotated upper lateral incisors.

No contributing medical or dental history was reported. The etiology of the malocclusion was deemed to be inadequate arch development in width. Eruption of the upper canines blocked-out, rotated, and flared the adjacent lateral incisors. Cephalometric measurements before and after treatment are presented in Table 1.

Fig. 2: Pre-treatment dental models (casts)

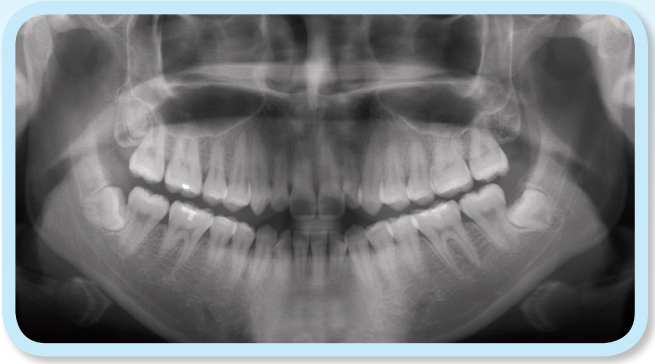

Fig. 3: Pre-treatment panoramic radiograph

Fig. 4:
Pre-treatment cephalometric radiograph with the E-Line shown in blue

Diagnosis

Facial:

- Facial Height: *Na-ANS-Gn was increased (58%).*
- Lip Protrusion: *Normal lip profile (-1mm upper and 0mm lower) to the E-line*
- Symmetry: *No midline deviation (Fig. 1)*
- Smile Line: *Except for the infra-version lateral incisors, the upper anterior dentition corresponded to the curvature of the lower lip.*

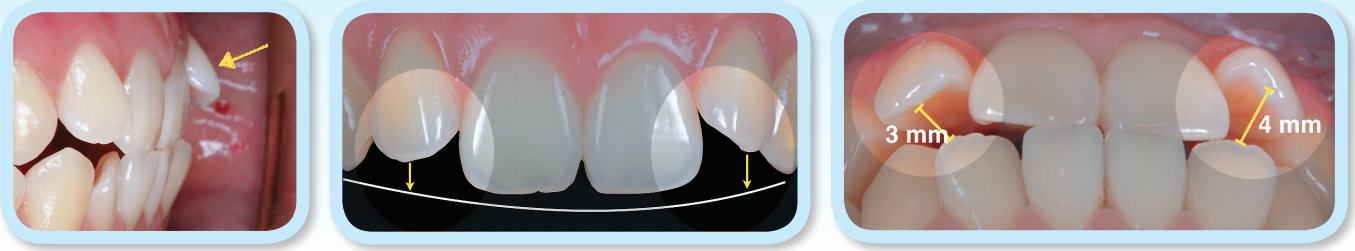

Fig. 5:
Left: *UL2 (yellow arrow) was flared as shown in the profile view.* ***Center:*** *The frontal view shows infra-occlusion of UL2 and UR2. Extrusion is required (yellow arrows) to align teeth along the smile arch (white curved line).* ***Right:*** *As indicated in the occlusal view, 3 and 4mm of overjet were present for the UR2 and UL2 respectively.*

CEPHALOMETRIC SUMMARY			
SKELETAL ANALYSIS			
	PRE-Tx	POST-Tx	DIFF.
SNA° (82°)	86°	88°	2°
SNB° (80°)	82°	84°	2°
ANB° (2°)	4°	4°	0°
SN-MP° (32°)	41°	39°	2°
FMA° (25°)	36°	34°	2°
DENTAL ANALYSIS			
U1 To NA mm (4mm)	1	4	3
U1 To SN° (104°)	98°	99°	1°
L1 To NB mm (4mm)	7	5	2
L1 To MP° (90°)	93°	86°	7°
FACIAL ANALYSIS			
E-LINE UL (-1mm)	0	1	1
E-LINE LL (0mm)	0	0	0
%FH: Na-ANS-Gn (53%)	58%	58%	0
Convexity: G-Sn-Pg' (13°)	8°	10°	2°

Table 1: Cephalometric summary

Skeletal:

- Intermaxillary Relationship: *Protrusive maxilla (SNA 86°) and mandible (SNB 82°)*
- Mandibular Plane: *Decreased (SN-MP 31°, FMA 23°) (Fig. 4)*
- Vertical Dimension of Occlusion (*VDO*): *Excessive Na-ANS-Gn (58%)*
- Symmetry: *Within normal limits (WNL)*

Dental:

- Classification: *Class I bilaterally*
- Overbite: *Edge-to-edge central incisors; 3mm open bite at UR2; 5mm open bite at UL2*
- Overjet: *4mm for UL2*
- Missing/Unerupted Teeth: *None*
- Symmetry: *No midline deviation*
- Crowding: *6mm in the upper arch*

The ABO Discrepancy Index (*DI*) was 22 as documented in the subsequent Worksheet 1.

Treatment Objectives

Maxilla (all three planes):

- A-P: *Maintain*
- Vertical: *Extrude anterior segment*
- Transverse: *Expand*

Mandible (all three planes):

- A-P: *Retract*
- Vertical: *Maintain*
- Transverse: *Expand*

Maxillary Dentition:

- A-P: *Maintain*
- Vertical: *Extrude incisors*
- Inter-molar/Inter-canine Width: *Expand/Expand*

Mandibular Dentition:

- A-P: *Retract*
- Vertical: *Maintain*
- Inter-molar/Inter-canine Width: *Expand/Maintain*

Facial Esthetics:

- Maintain

Treatment Alternatives

The chief complaint was malaligned maxillary lateral incisors. Buccal segments were near Class I bilaterally. The extraction decision chart proposed by Chang and Roberts[13] suggested a non-extraction approach. Three treatment options were proposed:

Option 1: Fixed appliances to relieve crowding and extrude the upper incisors

Option 2: Clear aligner therapy with IPR, and bilateral infrazygomatic temporary anchorage devices (*TADs*)

Option 3: Clear aligner therapy with IPR only

Rationale: Fixed appliances are efficient for treating anterior rotations with open bite (*Option 1*), and TADs are effective anchorage (*Option 2*). However, the patient preferred Option 3, which was a conservative aligner treatment with IPR. She preferred a minimally invasive approach that was more esthetic during treatment.

Treatment Progress

ClinCheck® was applied in order to digitally plan and monitor the progress of treatment. An optimized attachment beveled on the disto-gingival surface was placed on UL2 for extrusion and rotation. A horizontal rectangular attachment beveled towards

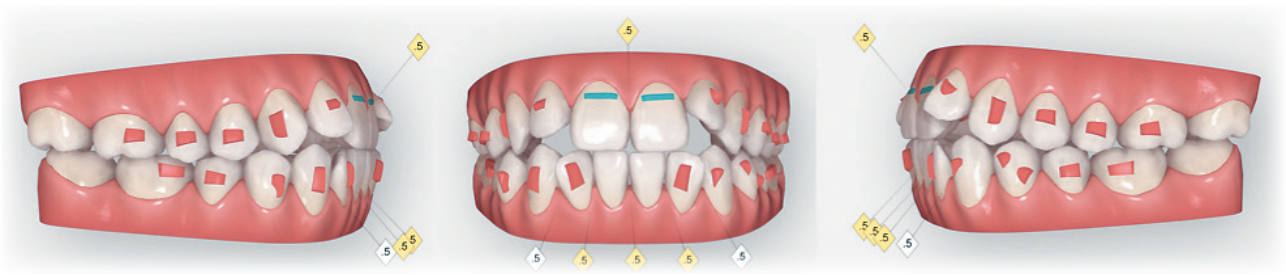

Fig. 6:
The initial setup with the prescribed attachments shows where the interproximal areas requiring IPR are. The amount of IPR required for each interproximal contact area is shown in the diamonds.

the gingiva was used for the extrusion of UR2. Conventional and optimized attachments were placed on other teeth as indicated to achieve a desired alignment (*Fig. 6*). Both arches were expanded slightly, and IPR was performed between lower and upper central incisors to relieve crowding. The Curve of Spee was flattened, and the interval for changing aligners was 10 days.

Two months into treatment, off-tracking was seen on UL2, with its attachment completely outside the corresponding aligner concavity when the 9th aligner was delivered (*Fig. 7*). The UL2 attachment was removed to prevent further distortion of the aligner and disrupted movement of other teeth. IPR on the mesial side of UL2 was also performed to facilitate rotation. The patient was instructed to continue wearing the current sequence of aligners until a revised set was delivered to correct UL2 alignment.

After 8 months of treatment, another set of intra-oral scans was performed, and additional aligners were designed using ClinCheck® (*Fig. 8*). The dentition was well aligned, except for rotations and tipping of upper and lower incisors. Both UL2 and UR2 were still gingival to the occlusal plane (*infra-occlusion*). Optimized attachments were designed for extrusion and mesial-in rotation of the upper lateral incisors. In addition, vertical rectangular attachments were placed on the lower lateral incisors to achieve mesial-out rotation.

Fig. 7:
At two months (2M) into treatment, off-tracking has occurred for the UL2.

Fig. 8:
Intra-oral scans of the upper arch at the 8th, 20th, and 25th month are shown with the prescribed attachments. Note the progress of extrusion and rotation for the UL2.

Off-tracking (*failed aligner retention*) was a continuing problem for the UL2. Additional aligners targeting the rotation and extrusion of the UL2 were designed and produced at the 20th and 25th month respectively (*Fig. 8*). After 30 months of treatment, the entire dentition was well aligned and articulated. All attachments were removed.

Results Achieved

Infra-occlusion of mesially-rotated upper lateral incisors (*DI=22*) was corrected to a near ideal occlusion (*CRE=3*) with 30 months of clear aligner treatment. IPR was performed as specified in the ClinCheck® treatment plan. The cephalometric analysis (*Table 1*) revealed that maxillary incisors were tipped anteriorly 1˚, and the mandibular incisors were tipped lingually 7˚. Overall, the patient was pleased with the facial and dental esthetics (*Figs. 9-11*). As shown in Figs. 12 and 13, as well as tabulated in Table 1, the specific achievements were:

Maxilla (all three planes):

- A-P: *Maintained*
- Vertical: *Maintained*
- Transverse: *Maintained*

Mandible (all three planes):

- A-P: *Maintained*
- Vertical: *Decreased*
- Transverse: *Maintained*

Fig. 9: Post-treatment facial and intraoral photographs

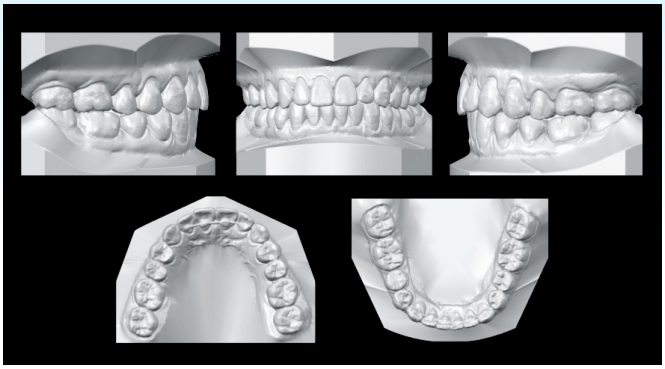

Fig. 10: Post-treatment dental model (casts)

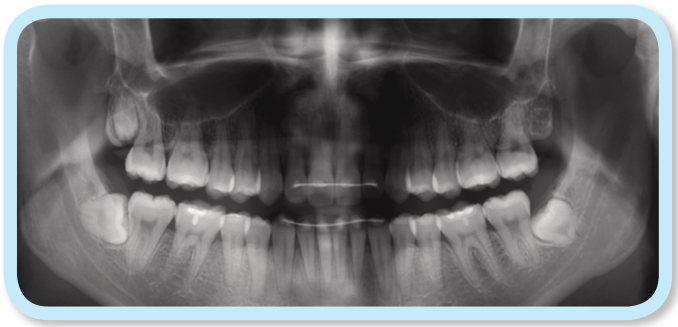

Fig. 11: Post-treatment panoramic radiograph

Fig. 12: Post-treatment cephalometric radiograph

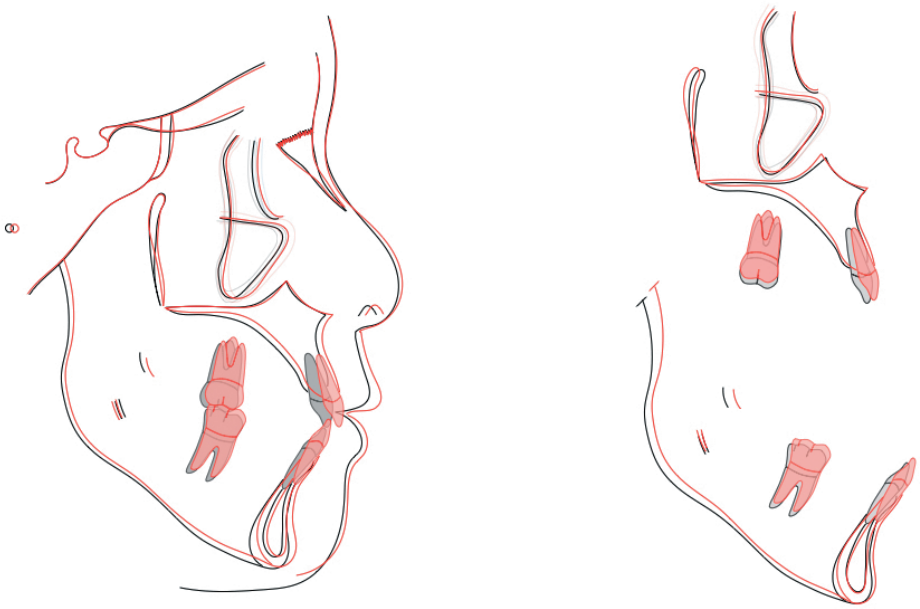

Fig. 13:
Cephalometric tracings before (black) and after (red) treatment document the dentofacial changes associated with aligner treatment. The superimpositions are on the cranial base (left), maxilla (upper right), and mandible (lower right). The upper and lower incisors were slightly protracted (tipped labially) to correct incisal crowding.

Maxillary Dentition

- A-P: *Slightly protracted incisors*
- Vertical: *Slightly intruded incisors*
- Inter-molar/Inter-canine Width: *Increased/Increased*

Mandibular Dentition

- A-P: *Slightly protracted incisors*
- Vertical: *Slight extrusion of lower incisors*
- Inter-molar/Inter-canine Width: *Maintained*

Facial Esthetics:

- Maintained

Retention

To maintain the width of both arches, fixed retainers were placed on all maxillary incisors and from canine to canine in the lower arch. Two ESSIX® overlay retainers (*Dentsply Sirona, Charlotte, NC, USA*) were provided to retain the leveling and alignment of the dentition. The patient was instructed to use the removable retainers full time for the first month, and then only while sleeping thereafter.

Final Evaluation of Treatment

A Class I occlusion with ideal overbite and overjet was achieved. The ABO Cast-Radiograph Evaluation (*CRE*) was 3 points (*Worksheet 2*). The only deficiencies were root axial inclination problems of the lower premolars, and excessive overjet of the UL2. The Pink and White esthetic score was 0 (*Worksheet 3*).

Discussion

This case report documents the near ideal correction of a difficult malocclusion. Infra-occlusion, rotation, and flaring of upper lateral incisors in a crowded dentition is a complex problem. Coordinated mechanics delivered concurrent extrusion, rotation, lingual tipping, and arch expansion to relieve crowding. Clear aligner therapy was applied for 30 months to align the maxillary lateral incisors. The expected treatment time was exceeded by at least 6mo. The treatment planning and difficulty experienced in delivering the required biomechanics needs further discussion.

Extrusion

Clear aligners move a tooth via deformation of the overlay material, which results in recoil against the contact surfaces of teeth. Undercuts and attachments provide retention for an aligner as it applies loads to individual teeth. Because of the divergent contour for most teeth, the net axial force is usually toward the gingiva. Distortion of the more compliant gingival margin of an aligner may allow interproximal contacts to open. Brezniak[8] vividly described the lack of aligner rigidity associated with bodily movement (*translation*) of a central incisor. These mechanics require a force of ~150g (*cN*) plus a moment up to 1600g-mm. Even when attachments are optimally designed and positioned, aligner distortion is inevitable when a significant load is applied. Intrusion may occur as a side effect. Furthermore, the lack of adequate undercuts around malaligned upper lateral incisors decreases the retention of aligners. To counter this

undesirable effect, attachments are necessary to improve retention and produce an extrusive force on teeth in infra-version.

Kravitz[4] evaluated extrusion of maxillary lateral incisors with clear aligners, and found a mean occlusal movement of only 0.56mm when several mm was needed. For increased predictability in improving smile esthetics, he suggested tipping the incisors distally as they are extruded. As demonstrated early in the treatment of the current patient, the "*relative extrusion*" due to lingual crown tipping was enhanced by labial surface attachments (*Fig. 8*). However, the actual extrusive movement was inadequate so "*absolute extrusion*" was required. It was evident that lingual tipping of the UL2 was achieved with the first set of aligners despite the history of off-tracking. This was probably due to the lingual force delivered to the labial surface by aligner contact. Off-tracking resulted in the loss of extrusive (*axial*) force, but lingual tipping remained efficient.

Improving aligner retention for labial surface attachments was crucial for efficient extrusion. Horizontal rectangular attachments beveled towards the gingiva are thought to retain aligners better than ellipsoid devices.[14] Optimized attachments are shaped like a half circle. This design tends to provide less retention than most conventional attachments. Karras[15] reported that conventional attachments are more effective than the optimized attachments for extruding central incisors. The position of the attachment results in variable loads applied to a tooth or teeth. A recent finite element analysis compared three attachment designs for extruding an upper central incisor. A rectangular attachment on the palatal surface is nearer to the center of resistance in the sagittal plane, and it yielded more efficient axial extrusion compared to the same attachment on the buccal surface.[3] Positioning attachments on the palatal surfaces of the dentition in ClinCheck® may facilitate tooth movement, but could result in occlusal interference with the lower dentition. Conventional attachments may result in an overcorrection,[4] particularly when auxiliaries such as buttons and elastics are used to improve the fit of the aligner.[16] Efficient extrusive mechanics must be carefully monitored.

Rotation

Rotation of incisors is more predictable than for more rounded teeth such as canines and premolars.[17] However, a study evaluating rotation of a central incisor with clear aligners found a net intrusive force because the aligner primarily contacted the tooth near the incisor edge.[18] A finite element analysis of lower premolar rotation found that intrusion is an inevitable complication during rotation due to distortion at the aligner margin.[9] This intrusive force demonstrates what Breziniak[8] described as the "*watermelon seed*" effect. For the present patient, rotating the upper lateral incisors was hampered by the interference of the central incisor due to inadequate space. Loss of tracking (*failure of aligner retention*) occurs in rotation when there is inadequate space so that the lateral incisor engages the adjacent central incisor. The off-tracking essentially eliminates the extrusive force as previously discussed.

Flaring

Invisalign® is more effective for lingual tipping than for extrusion of incisors, so Kravitz[4] proposed performing a "*relative extrusion*" to close anterior open bite, as discussed above. These mechanics were applied to the present patient because the upper lateral incisors were flared prior to treatment (*Fig. 8*). However, poor vertical control and interference with the central incisor inhibited palatal tipping of the lateral. Furthermore, the desired camouflage effect[4] was not achieved because lingual tipping was inhibited. Adequate space for displaced teeth must be provided with IPR and/or expansion of the arch circumference. Another common source of intrusive force occurs when correcting labially inclined buccal segments.[19] As the axial inclination is corrected, retention of the aligner by the labial attachments may be compromised, leading to off-tracking. This potential problem must be carefully monitored by the patient and the doctor.

Managing a Crowded Dentition

Interference from the central incisors due to anterior crowding was an important factor leading to off-tracking for the present patient (*Figs. 5-7*). Alignment with Invisalign® usually requires labial tipping of the incisors and interproximal reduction (*IPR*).[20,21] However, IPR between UL1 and UL2 was not planned with ClinCheck® because the algorithm did not detect a collision. Thus, there was inadequate arch circumference for alignment of the upper lateral incisors, so the UL2 did not tip distally as planned, which led to off-tracking. It is important for the doctor to recognize the limitations of a ClinCheck® treatment plan and revise it if needed. Unusual 3D anatomy such as tipped, intruded, and rotated upper incisors is a challenging problem.

To facilitate tooth movement, IPR was performed periodically, but it was inadequate to align both upper lateral incisors. Routine IPR achieves only 35% of the intended increase in arch circumference because of movement of the tooth within the periodontal ligament.[22] In effect, the incisors flare slightly, presenting the illusion that adequate IPR has been achieved. Treatment was extended due to poor control in tipping of the UL2 distally, which was resulted from insufficient IPR and the overlapping of the crown with adjacent central incisor.

Unrealistic Optimized Attachments

An advantage of optimized attachments is the defined moment-to-force ratio for improving root movement,[23] but they must be properly positioned.[24] The vast data set collected by Align Technology provides good predictability for the indeterminate mechanics delivered by full arch aligners, but midcourse correction is almost always required for an ideal result. Reliance on optimized attachments to achieve an optimal outcome with one stage of treatment is unrealistic. Instead, correction of a malocclusion should be divided into stages. Additional scans and Clincheck® analysis after each stage provide specific treatment objectives to achieve an optimal outcome in a stepwise manner.

Proposed Plan

In retrospect, virtual planning on the ClinCheck® failed to account for the difficulty of the malocclusion, and for the limitations of aligners for correcting

tipped and rotated incisors. Maintaining retention of the aligner to avoid off-tracking should be the top priority. Generous IPR was required to avoid interference with adjacent teeth as the malocclusion was corrected. A vertical attachment on the labial surface was indicated to improve retention. If open bite persists, a horizontal attachment beveled to the gingiva is useful for absolute extrusion. Buttons and elastics are useful for ensuring a firm grip on the dentition. Frequent use of Chewies to help seat the aligners, as well as increasing the interval of aligner progression, may be helpful for achieving more efficient tooth movement.

Conclusions

Optimized attachments designed by ClinCheck® effectively extrude rotated maxillary lateral incisors in infra-occlusion due to a crowded dentition. However, off-tracking is a common complication. IPR and the staged use of attachments are efficient options for ensuring the retention of aligners to accelerate treatment.

Fig. 14 documents the current condition of the patient 2 years post-treatment.

Fig. 14: Facial and intraoral photographs at 2-year follow-up

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Discrepancy Index Worksheet

TOTAL D.I. SCORE 22

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 =

Total = 2

OVERBITE

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

Total = 0

ANTERIOR OPEN BITE

0 mm. (edge-to-edge), 1 pt. per tooth
then 1 pt. per additional full mm. per tooth

Total = 8

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 = 4

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 _____ pts.
Beyond Class II or III	=	1 pt. per mm. additional _____ pts.

Total = 0

LINGUAL POSTERIOR X-BITE

1 pt. per tooth Total = 0

BUCCAL POSTERIOR X-BITE

2 pts. per tooth Total = 0

CEPHALOMETRICS (See Instructions)

ANB ≥ 6° or ≤ -2° = 4 pts.

Each degree < -2° _____ x 1 pt. = _____

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

SN-MP

≥ 38° = 2 pts.

Each degree > 38° 3 x 2 pts. = 6

≤ 26° = 1 pt.

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

1 to MP ≥ 99° = 1 pt.

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

Total = 8

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 pts. =	_____
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 =

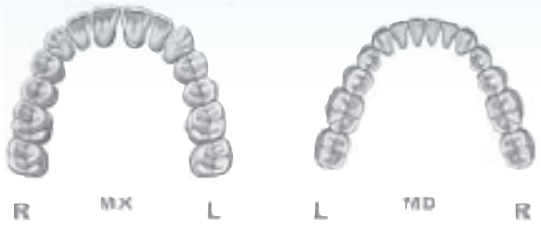
Cast-Radiograph Evaluation

Case # **Patient**

Total Score: 3

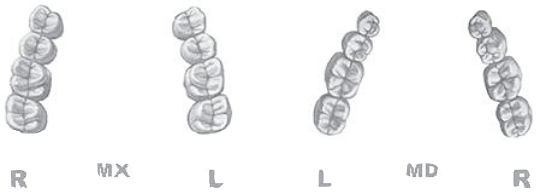
Alignment/Rotations

0



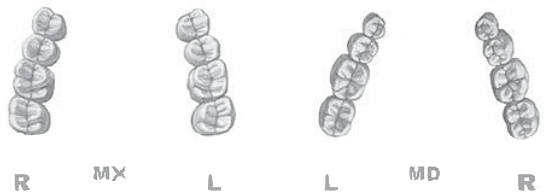
Marginal Ridges

0



Buccolingual Inclination

0

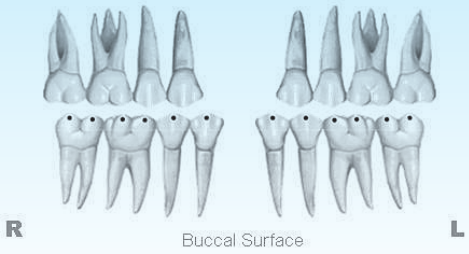


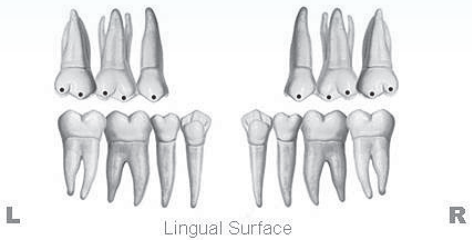
Overjet

1

Occlusal Contacts

0



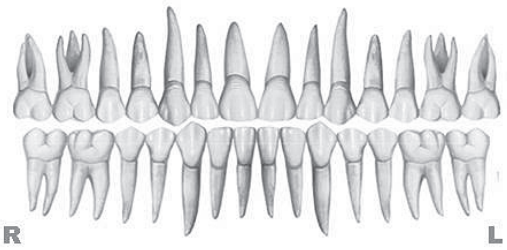


Occlusal Relationships

0

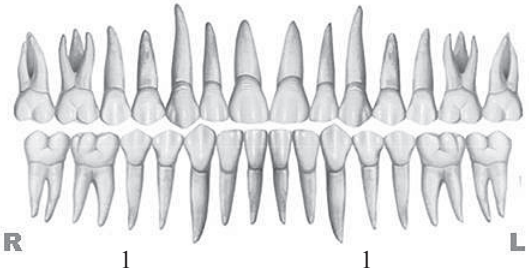
Interproximal Contacts

0



Root Angulation

2



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 (Before Surgical Crown Lengthening)

Total Score: = 0

1. Pink Esthetic Score

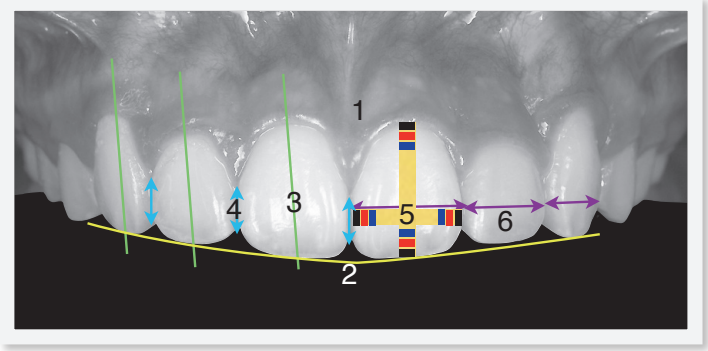
Total = 0

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 Papilla	(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-esthetics)

Total = 0



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 (1:0.8)	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 (1:0.8)	(0)	1	2
6. Tooth to Tooth Proportion	(0)	1	2