

Inclined Central Incisors

Using a straightforward aligner for a simple case

by Dr. Nishan Dixit

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Dixit is also the current scientific director of the British Academy of Cosmetic Dentistry.

Demand for adult orthodontics has grown enormously in recent years, with an increasing number of people wishing to straighten their teeth in pursuit of an improved smile.

As a result of the time and financial restrictions faced by many patients today, anterior alignment orthodontic treatment has become particularly popular by offering a safe, highly effective and efficient solution.



The ClearSmile Inman Aligner appliance.

Case presentation

A healthy 33-year-old patient presented with concerns about the appearance of her central incisors, which had become palatally inclined because of poor retention after previous orthodontic treatment. Her main intention was to align the anterior teeth without using fixed braces again.

The patient did not drink alcohol or smoke cigarettes, regularly attended dental appointments and followed a strict oral care regimen that included brushing twice a day

and flossing. Her dental notes also revealed that her upper premolars had been extracted during her previous orthodontic treatment.

Orthodontic assessment

Assessment confirmed good oral health with no signs of periodontitis, although the patient did show signs of discolouration as a result of tea consumption. There were no signs of a crossbite and the lips were competent at rest. An orthodontic assessment was also carried out. (See Table 1).

Table 1:

Skeletal	Mild Class II	
FMPA	High	
Lower Face Height	Normal / average	
Facial Asymmetry	None	
Soft Tissues	Pink, healthy and well hydrated	
Incisor Relationship	Class II division II	
Overjet	Reduced (0mm)	
Overbite	Increased (90% overlap)	
Displacement on Closure	None detected	
Molar Relationship	Left: Class II	Right: Class II
Canine Relationship	Left: Class I	Right: Class I
Teeth Present	8765321	1235678
	87654321	1234567
Centrelines	Coincident	

Digital case planning

Once the necessary examinations were complete, the patient was presented with treatment options including clear aligners, fixed orthodontics, veneers and the ClearSmile Inman Aligner removable appliance.

Because the patient was desperate to avoid comprehensive orthodontic treatment again, and veneers are considered to be a more invasive option, she opted for the ClearSmile Inman Aligner because it was more suitable for tipping the incisors than clear aligners. She was also made fully aware that there would be an increase in overjet after proclination.

To confirm suitability of the treatment method, I utilised the IAS Academy's Spacewize+ arch evaluation software. The results of the crowding calculator concluded that approximately 0.75mm of space would need to be created, ensuring that the ClearSmile Inman Aligner was appropriate for the patient's needs.

After subsequent photographs and radiographs were taken (Figs. 1–11), study models were put together. Through these, the patient was able to see the expected results, which was a great tool for boosting motivation and ensuring compliance.

Table 2:

Problem list
Mild upper incisor crowding
Mild lower incisor crowding
Class II division II incisor relationship
Reduced overjet
Increased overbite
Molar relationship – class II on the right
Ideal treatment aims
Correct upper and lower crowding
Correct deep overbite
Correct molar relationship on right-hand side
Compromised treatment aims
Correct upper incisor crowding
Correct deep overbite
Improve incisor overlap and overjet
Accept lower incisor crowding
Accept molar relationship

Case presentation



Fig. 1: Pretreatment.



Fig. 2: Pretreatment, lips at rest.



Fig. 3: Pretreatment, smile.

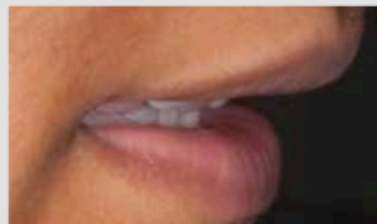


Fig. 4: Pretreatment, right view.

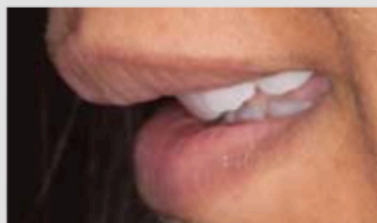


Fig. 5: Pretreatment, left view.



Fig. 6: Pretreatment, retracted.



Fig. 7: Pretreatment, upper anteriors.



Fig. 8: Pretreatment, retracted right view.



Fig. 9: Pretreatment, retracted left view.



Fig. 10: Pretreatment, upper occlusal.



Fig. 11: Pretreatment, lower occlusal.

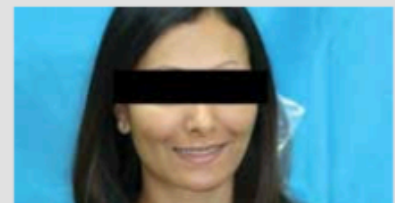


Fig. 12: Posttreatment.



Fig. 13: Posttreatment, lips at rest.



Fig. 14: Posttreatment, right view.

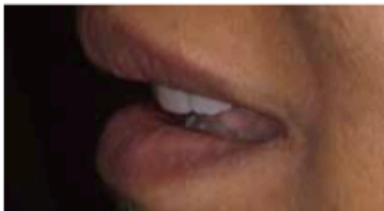


Fig. 15: Posttreatment, left view.



Fig. 16: Posttreatment, retracted.



Fig. 17: Posttreatment, upper anteriors.



Fig. 18: Posttreatment, upper occlusal.



Fig. 19: Posttreatment, lower occlusal.

Treatment

Table 3:

Appointment	Stage
1	<ul style="list-style-type: none"> • Upper and lower impressions taken. • Bite registration taken.
2	<ul style="list-style-type: none"> • Started ClearSmile Inman Aligner treatment; patient shown how to insert and remove appliance, and advised to wear between 16 and 20 hours a day. • Oral and appliance hygiene instructions were given. • Placed composite anchor on the buccal surface of the upper right lateral incisor with the aim to keep the aligner bow in place for more efficient tooth movement. • No interproximal reduction (IPR) at this stage.
3	<ul style="list-style-type: none"> • Patient was seen for a check-up to review compliance and monitor tooth movement. Models were used as a reference to show progress. • Aligner bow and springs were checked for function.
4	<ul style="list-style-type: none"> • Function of the appliance and movement checked again. • IPR carried out distally on UL1 and mesially and distally on UL2 using yellow strips (0.08mm), followed by polishing and application of topical fluoride.
5	<ul style="list-style-type: none"> • The patient was informed of the protocol for retention. • Upper and lower impressions were taken in putty/wash material for a custom made fixed lingual retainer. • A record of the bite was also taken.
6	<ul style="list-style-type: none"> • Composite anchor removed from upper right lateral incisor. • Fixed lingual retainer fitted with composite. • Guidance given on the importance of retention and advised to keep the ClearSmile Inman Aligner appliance in case relapse occurs in the future. • Appointment made with the hygienist.

Self-appraisal

Because the patient's concerns were addressed and her smile was improved with minimal tooth reduction, I am pleased with the outcome of the case.

The aim had been to complete the case without any tooth reduction, but to close or reduce the black triangle toward the interproximal area of the upper central incisors, a small amount of IPR was necessary

(to which the patient consented). The patient was very happy with the final result and can now smile with confidence.

In a review 10 days after the completion of the treatment, the patient had adapted to the fixed retainer well and had not reported any complications or discomfort. The retention will continue to be monitored to ensure no further orthodontic treatment is required in the future. ■

References

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