Inclined Central Incisors: The Use of a Straightforward Aligner for a Simple Case

By Dr Nishan Dixit, UK

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 various time and financial restrictions faced by many patients today, anterior alignment orthodontics has become particularly popular, offering a safe, highly effective and efficient solution.

Case Presentation
A healthy 33-year-old female presented to the practice with concerns about the appearance of her central incisors – which had become palatally inclined following poor retention after previous orthodontic treatment. Her main intention was to align the anterior teeth, without using fixed braces again. The patient was a non-drinker, non-smoker, 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 were extracted at the time of her previous orthodontic treatment.

Orthodontic Assessment
Assessment confirmed good oral health with no signs of periodontitis, though the patient did show signs of discoloration as a result of tea consumption. There were no signs of caries and lips were competent at rest.

An orthodontic assessment was also carried out (Table 1).

Digital Case Planning
Once the necessary examinations were complete, the patient was presented with the various treatment options – these included clear aligners, fixed orthodontics, veneers and the IAS Inman Aligner removable appliance. As the patient was desperate not to undergo comprehensive orthodontic treatment again and veneers are considered to be the more invasive option, she opted for the IAS Inman Aligner – a much more ideal option for tipping the incisors without clear aligners. She was also made fully aware that there would be an increase in overjet following proclination.

Compromised Treatment Aims
With a special interest in smile makeovers, a Straightforward Aligner for a Simple Case

Skeletal
FMA
Lower Face Height
Facial Proportions
Soft Tissues
Overjet
Overbite
Displacement on Closure
Canine Relationship
Teeth Present

Table 2

<table>
<thead>
<tr>
<th>Centrelines</th>
<th>Molar relationship – class II on the right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centrelines</td>
<td>Coincident</td>
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</table>

Canine Relationship

Left: Class I Right: Class I

To confirm suitability of the treatment method, I utilised the IAS Academy’s Spaceware™ arch evaluation software. The results of the crowding calculator concluded that approximately 0.75mm of space would need to be created, ensuring that the IAS Inman Aligner was appropriate for the patient’s needs. After subsequent photographs and radiographs were taken, 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.

Self-Appraisal
As we managed to address the patient’s concerns and improve her smile with minimal tooth reduction, I am pleased with the outcome of the case. We had aimed to do the case without any tooth reduction, but in order to close or reduce the black triangle towards the interproximal area of the upper central incisors, a small amount of IPR was necessary, which the patient consented to. The patient was very happy with the final result and can now smile confidently.

In a review, ten days after the completion of the treatment, the patient had adapted to the fixed retainer well and had not reported any complications or discomfort. Because of past problems, we will continue to monitor the patient’s retention, that way she can ensure that no further orthodontic treatment is needed in the future

Table 3

<table>
<thead>
<tr>
<th>Appointment</th>
<th>Stage</th>
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<tbody>
<tr>
<td>One</td>
<td>• Upper and lower impressions taken. • Bite registration taken.</td>
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<tr>
<td>Two</td>
<td>• Started IAS 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 and/or orthodontic clips on the buccal surface of the upper incisors with the aim to keep the aligner in place for more efficient tooth movement. • No interproximal reduction (IPR) at this stage.</td>
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<tr>
<td>Three</td>
<td>• Patient was shown 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.</td>
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<tr>
<td>Four</td>
<td>• Function of the appliance and movement checked again. • IPR carried out distally on UL1 and distally on UL2 using yellow strips (0.08mm), followed by polishing and application of topical fluoride.</td>
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<tr>
<td>Five</td>
<td>• 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.</td>
</tr>
<tr>
<td>Six</td>
<td>• 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 IAS Inman Aligner appliance in case relapse occurs in the future. • Appointment made with the hygienist.</td>
</tr>
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Table 4

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<td>Mild upper incisor crowding</td>
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Problem List

Mild upper incisor crowding
Mild lower incisor crowding
Class II division II incisor relationship
Reduced overjet
Increased overjet
Molar relationship – class II on the right

Inclinometers

Mild Class II
High
Normal / average
None
Pink, healthy and well hydrated
Class II division II
Reduced (0mm)
Increased (0mm)
None detected
Left: Class II
Left: Class I Right: Class I
8765321
1235878
8765435
1234567
Coincident

Dr Nishan Dixit is the Founder and Principal Dentist of Blue Court Dental in Harrow, Middlesex. He is also the current Scientific Director of the British Academy of Cosmetic Dentistry (BACD). With a special interest in smile makeovers and cosmetic orthodontics, Dixit details a case using the IAS Inman Aligner.

Editorial note: A list of references is available from the publisher.