

Resolving anterior crossbite and anterior crowding using clear aligner therapy

NARESH DAUDIA leads us through the treatment of anterior crossbite and crowding in less than 12 months using In-Line clear aligners without attachments

FACTFILE



Dr Naresh Daudia gained his bachelor of dental surgery at the University of Newcastle upon Tyne. He qualified in 1986 and has been in the dental profession for over 30 years, delivering a high standard of quality care in both NHS and private dentistry. His interests in orthodontics led him to undergo a two year Straight Forward Straight Wire orthodontic course. He gained valuable experience in the field having worked as an associate dentist for nine years in Leicester, and later became a partner at Doncaster Road Dental Surgery in 1995. After 16 years, he decided to sell his share of the practice to become a part-time associate once again, practicing at Loughborough University Dental Practice, Smile Care Dental Care and Forest House Dental Practice.

People of all ages want a beautiful, natural smile as well as healthy teeth and gums. An increasing number of adult patients are willing to undergo orthodontic treatment in order to achieve this. However, they often want the appliance to be as inconspicuous and comfortable to wear as possible. In many cases the patient can be treated successfully with aligner therapy. In this case the patient was treated with In-Line aligners produced in Germany www.in-line.co.uk.

INITIAL SITUATION

The patient wanted to resolve his anterior crossbite and crowding in order to improve the appearance of his smile. He expressed a preference to have the malalignment corrected with a therapy which should be as invisible as possible. From a frontal view, it can clearly

'THE ALIGNERS ARE VERY COMFORTABLE AS THEY ARE MADE FROM A PATENTED TWIN LAYER PLASTIC'



Figure 1: Initial situation frontal view

be seen that UR1 and UR2 were in crossbite (Figures 1 and 2). The crowding is more clearly seen when viewed from occlusion (Figure 3).

As a part of the diagnostics, photographs were taken, and a study model and OPG were produced. Clinical examination showed that the patient's teeth and gums were otherwise healthy with no problems relevant to orthodontic treatment.

TREATMENT DECISION

The patient was informed about all the available treatment options. In addition to treatment with In-Line, other treatment options were discussed with the patient. The dentist informed the patient that a more comprehensive treatment result can often be achieved by using fixed appliances. However, even braces made of tooth coloured ceramics were rejected by the patient on both aesthetic and comfort grounds.

UNIQUE CHARACTERISTICS

The patient was shown a sample of an In-Line aligner. This solution met his need for comfort; the aligners are very comfortable as they are made from a patented twin layer plastic which



Figure 2: Lateral view of anterior crossbite



Figure 3: Occlusal view of anterior crowding

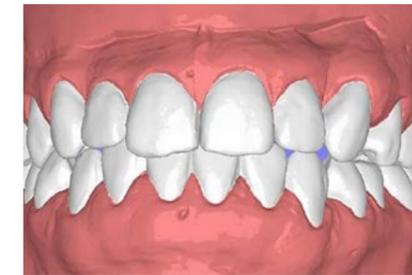


Figure 4: Frontal preview picture in occlusion

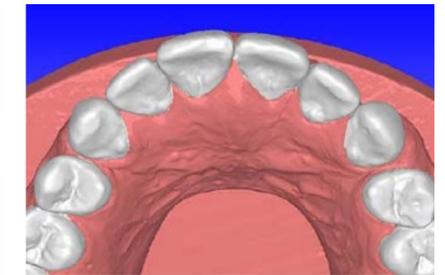


Figure 5: Upper arch preview from occlusion

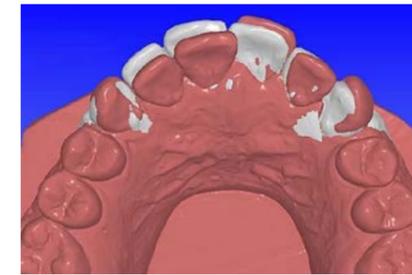


Figure 6: Upper preview picture from occlusion, pink = initial situation, white = final situation



Figure 7: Frontal view after 11 months' treatment



Figure 8: Comparison of pre-treatment, set-up preview pictures and post treatment pictures

is scalloped to the gingival margin. They affect the patient's speech only initially and are visually barely noticeable. The aligners' 'rubbery' inner layer clings to the teeth eliminating the need for the composite attachments/anchors used by nearly all other aligner systems. The placement of attachments can be time consuming and removal of attachments introduces a risk of causing damage to enamel tooth surfaces.

TREATMENT PLANNING

Although treatment of an anterior crossbite is not possible with all aligner systems, the laboratory in Germany confirmed that it was possible to treat this case with In-Line. A quotation with treatment recommendations and a digital set-up / preview were sent within two to three weeks. The preview includes nine pdf images of the final situation, these images allowed patient the opportunity to see how his teeth would appear post treatment from all angles (Figures 4-6).

The treatment proposal prescribed eight aligners for the upper arch and ten for the lower arch to be worn for four to six weeks each.

TREATMENT PROGRESS

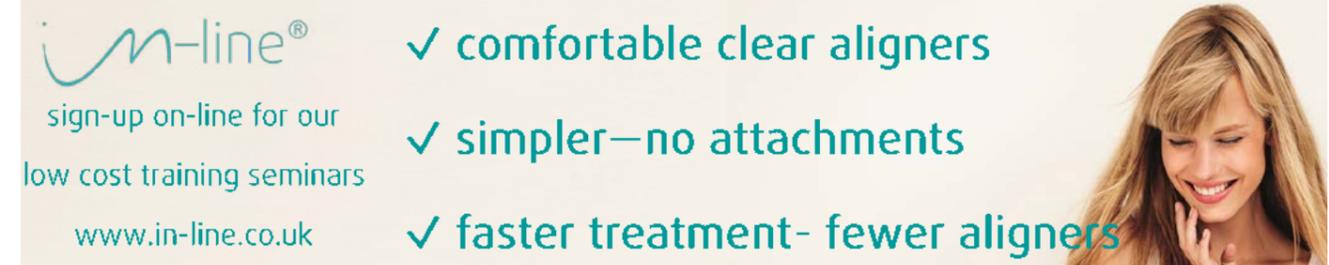
The patient was given new aligners successively at individual check-up appointments, at intervals of approximately four weeks. Inter-proximal reduction was carried out progressively at each of the first six appointments. He wore the aligners for the recommended time of at least 20 hours a day and the treatment goal was reached in around 11 months (Figure 7).

Comparison of the pre-treatment photographs with the post-treatment photographs and the preview set-up pictures shows how comprehensively the treatment goal was attained (Figure 8).

RETENTION

Long-term retention is crucial following

adult orthodontic treatment in order to avoid the risk of potential relapse. A long term retention package is included with all In-Line aligner treatments: This consists of either two durable removable night time retainers per arch or a 3-3 fixed/bonder wire retainer with a durable removable retainer fitting over the top.



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