Adult orthodontic treatment of a relapsed case

NEEL CHUDASAMA presents a case to a correct a patient's upper and lower teeth and a protruding upper right lateral incisor

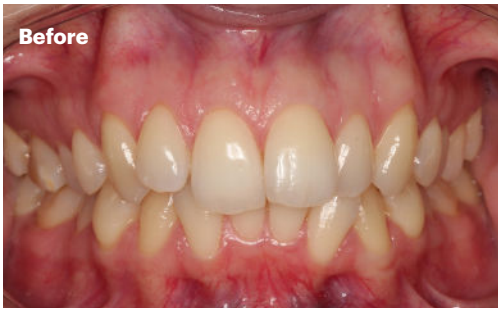
This case shows an example of orthodontic treatment helping to create a durable, healthy aesthetic result for this middle aged lady. Cedro et al (2010) reported that demand for orthodontic treatment appears to be increasing and this is likely to continue.

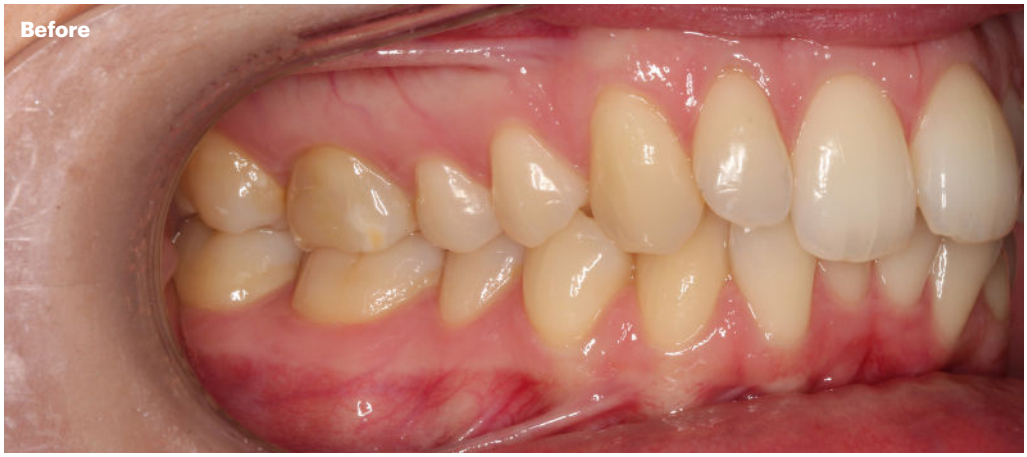
PRESENTING SITUATION

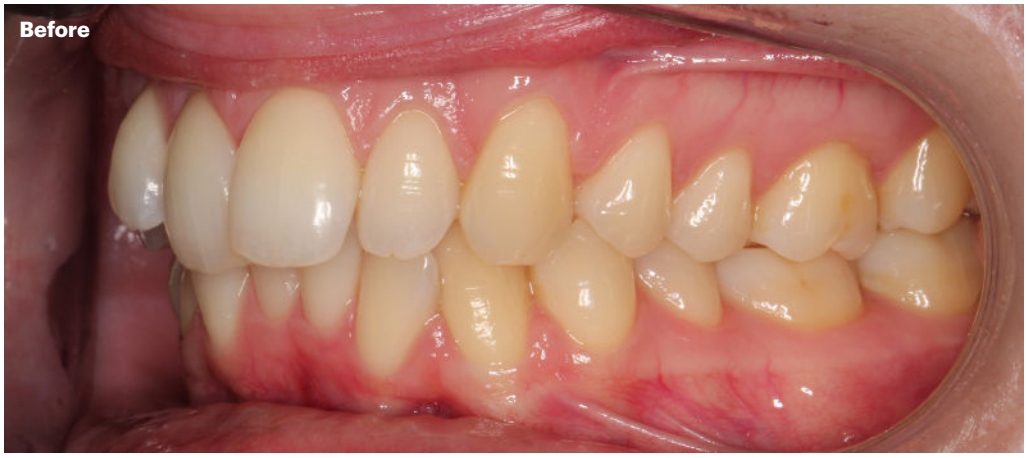
This pleasant lady presented to the clinic was concerned about the position of her upper and lower teeth and in particular her protruding upper right lateral incisor. She had previously undergone orthodontic treatment as a child however she stopped wearing her retainers after a year.

EXAMINATION

Full dental and radiographical examinations were carried out to ensure it was in the patient's best interest to undergo orthodontic correction. Having deemed the patient fit for orthodontic treatment the following treatment

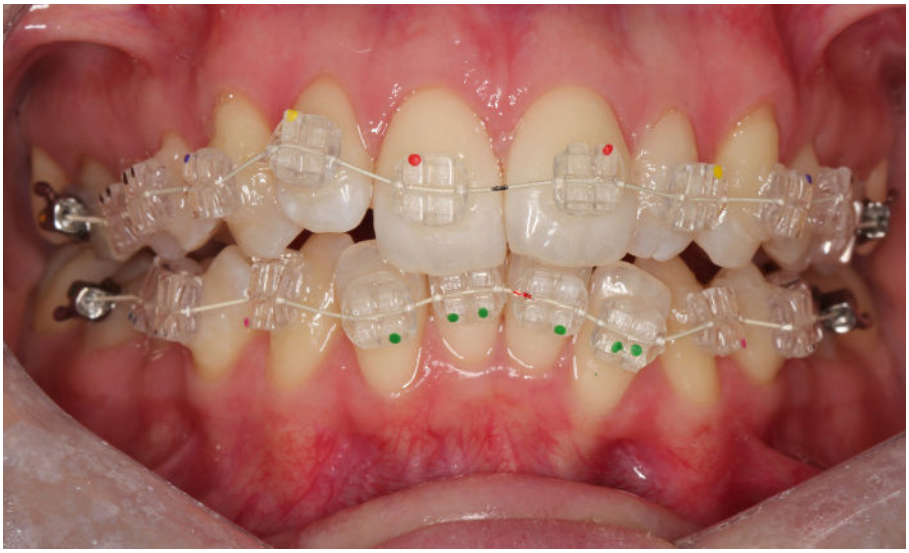






FACTFILE

Neel Chudasama gained his dental qualification at the University of Leeds in 2007. He continued his training, and in 2009 he was awarded a diploma of membership of the faculty of dental surgery. Neel concentrates on cosmetic dentistry and aesthetic orthodontics. He has recently completed the IAS Academy year-long advanced comprehensive orthodontic programme allowing him to treat complex cases whether they be adults or children to the gold standard. Neel works at the Dental Suite in Nottingham.



options were offered to patient

- Do nothing
- Conventional braces (fixed)
- Anterior alignment orthodontics (fixed)
- Clear removable aligners
- Lingual orthodontics
- After discussing risks and benefits a written treatment plan was formulated and provided to the patient who opted for upper and lower clear conventional braces.

DIAGNOSIS

Class 2 div 2 malocclusion with moderate upper and lower crowding. It is worth mentioning that 25% of retreatment cases are mainly class 2 div 2 types (Khan and Horrocks 1991).

TREATMENT STAGES

1. Prior to commencing orthodontic treatment the patient was seen by our hygienist for OHI, and a detailed fine scale and polish
2. Bond up of upper and lower clear labial brackets. The teeth were pumiced beforehand followed by air drying and application of Ortho Solo bond

Purity clear MBT brackets were bonded onto the teeth using Transbond XT orthodontic cement.

'WE MANAGED TO RESOLVE UPPER AND LOWER CROWDING AND MANAGED TO ACHIEVE CLASS 1 MOLARS, CANINES AND INCISORS'

Flexible low force coated Ni-ti archwires were used initially and secured with a combination of clear modules and metal coated ties.

3. The patient was reviewed at six week intervals at which archwires were changed and tightened. The following wire sequence was used in this case for upper and lower arches:

00.12 niti (round), 00.16 niti (round), 20 x 20 niti (rectangular), 19 x 25 niti (rectangular)

It was important in this case to use a mixture of round and rectangular wires as not only do we want alignment of teeth but also an expression of root torque to prevent flaring, under torqued crowns which can significantly affect aesthetics.

4. During the end stages of treatment the patient wore class 2 ¼ inch 4.5 oz elastics to help reduce the OJ to the ideal 2mm.
5. After 11 months of treatment the brackets were debonded and upper and lower fixed and removable retainers were provided.
6. Whitening with 10 % hydrogen peroxide for 14 days.
7. Retainer check appointments were carried out three monthly for the firstt year to ensure retainer compliance and the patient was advised to have regular hygienist appointments.

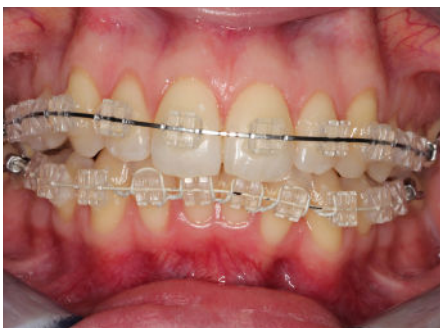
PATIENT OUTCOME

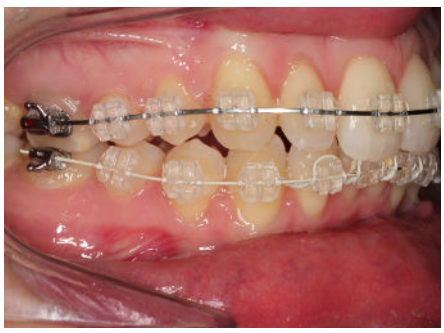
This case took approximately 11 months to complete. We managed to resolve upper and lower crowding and managed to achieve class 1 molars, canines and incisors. Sadly, we did not achieve absolute perfection as the lower midline was out by 1mm and some minor detailing on other teeth could have resulted in a fantastic result. However despite this, the patient was thrilled with the result.

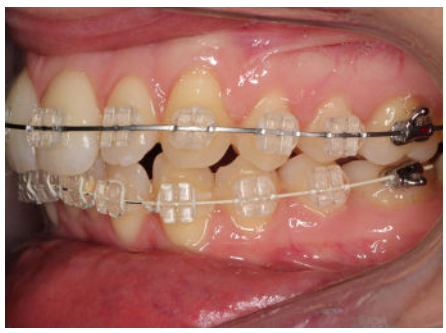
The use of class 2 elastics in this case helped reduce the overjet towards the end of treatment. Class 2 elastics are used from the lower first molar to the upper canine tooth. A systematic review done by Janson et al (2013) looking at the effect of class 2 elastics in correcting class II malocclusions concluded that class II elastics are effective in correcting class II malocclusions and that their effects are primarily dento-alveolar.

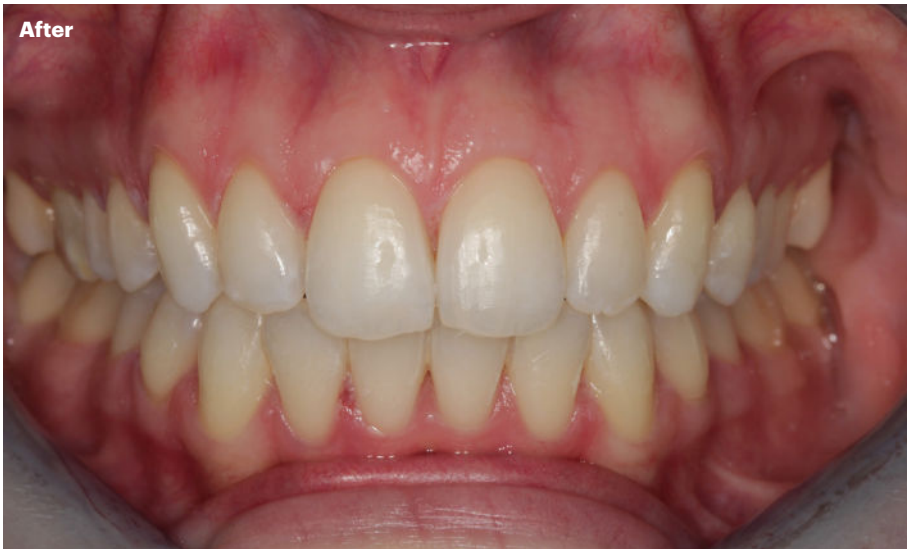
Janson et al (2013) systematic review also mentioned the importance of using the elastics with care as their primary side effects included flaring of mandibular incisors, loss of mandibular anchorage (molars moving forward) and worsening of smile aesthetics due to extrusion of upper incisors.

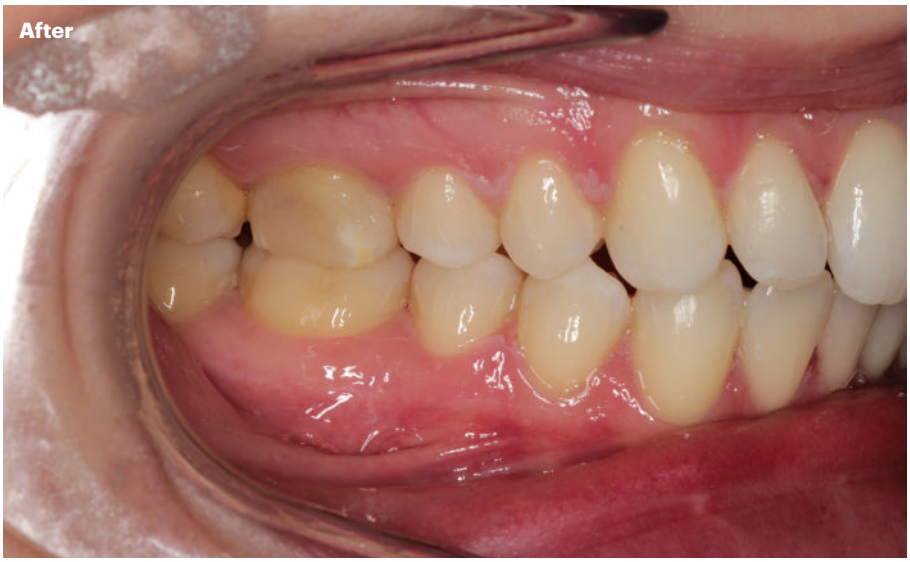
The key to maintain a successful stable outcome in this case will be to ensure the











patient's teeth are retained. Littlewood et al (2006) found that retention regimes vary widely between clinicians and different protocols exist amongst different clinics, currently there is insufficient research data to base clinical practice.

Many patients at our clinic are referrals and it is important that GDPs should be actively informing and engaging patients to reinforce retention at it reduces relapse in the long term (Johnson and Littlewood 2015). OP

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