

Make it to the church on time

Dr Andrew Wallace explains how he achieved rapid, aesthetic results – to a very important deadline

By Dr. Andrew Wallace, UK

A new female patient came for routine dental treatment. She said that she was unhappy with the appearance of her smile. She had gaps between her upper anterior teeth, which made her self-conscious (Fig. 1 and 2).

She was already aware of the traditional dental treatment options, but did not want fixed orthodontics and declined the offer of a referral to a specialist colleague. She was well-informed of the destructive nature of some restorative procedures and the possible need for elective root canal therapy, if crowns or veneers were chosen.

Planning and preparation

The option of quickly and safely aligning the front teeth was very attractive to the patient. The main alternatives open to her were clear braces or Inman Aligner therapy. The latter was the patient's first choice. The Inman Aligner can be worn part time, and the treatment is quicker and cheaper.

It was evident from the outset that, with the anterior occlusal situation, we would not fully close the gap just by retracting the teeth. The diagnostic set-up from Nimrodental Orthodontic Laboratory confirmed this.

The options for completing the space closure included direct composite bonding or minimal preparation porcelain laminate veneers. The patient's desire for the least invasive treatment meant direct bonding was her preference.

Before alignment therapy began, several recent, but failing, posterior composites were replaced with layered, polychromatic Heraeus Venus Diamond.

Orthodontic treatment

Over eight weeks, retraction of the upper anterior teeth was completed using the Inman Aligner (Fig. 3 and 4). The labial bow was used for the first five weeks. The palatal bow was only inserted for the final few weeks to complete the alignment.

Once the teeth were in position, a

direct mock-up was done freehand, using composite. This allowed the patient to visualise the incisal edges and proportions of the proposed direct bonding. Following patient approval, a silicone putty matrix was made to guide the final restoration. The composite stage in the treatment process took place one week later.

Plain gingival retraction cord was placed mesial to the central incisors. This small amount of retraction facilitated an optimal emergence profile. A minimally invasive approach was adopted for enamel preparation. A very light bevel (less than 1mm across) was placed on the incisal edges.

The enamel areas to be bonded were sandblasted with aluminium oxide. A non-rinse, self-etching adhesive system was then used. To achieve the space closure, each tooth was built up individually, using a systematic approach. The matrix was employed to aid placement of the midline and incisal edges, and the palatal surface. The shelves of the interproximal

areas were outlined with a very thin layer of Venus Diamond A2 composite. The dentine was then replicated using Venus Diamond OM.

The OM was brought facially to ensure there was no 'greying out' or obvious change in opacity over the transition between tooth and restoration.

The next phase was to add a blue opalescence in the incisal areas of the central incisors (Fig. 5). A white enamel opacity effect was created in the mesio-incisal corner of the upper right lateral incisor. This was then overlaid with Venus Diamond A2 (Fig. 6).

In my opinion, Venus Diamond and its sister product Venus Pearl are the perfect materials for this type of procedure, due to their excellent optical properties and simple technique.

Finally, a thin layer of translucent Heraeus A1 Durafill microfill composite was added and covered with PTFE tape. It was manipulated using interproximal carvers and digital

pressure, to ensure correct adaptation and blending, then cured through the tape.

A number 12 scalpel was used to remove any flash of material interproximally and the teeth were finished with Venus Supra polishers. The patient was reviewed two weeks later for final clinical photography and polishing (Fig. 7).

Results

A combination of alignment and bonding has given this young lady the smile she didn't think was possible. It is a non-invasive, fast, predictable and inexpensive alternative to both restorative treatment and orthodontics.


The patient endorsed that the treatment was ideal for her because she was soon to be married. She emphasised that while wearing the aligner, she could talk and go about normal life. She said: 'The results were even better than I expected and in such a short amount of time. I was able to smile, no longer hiding my teeth, in all my wedding pictures!' (Fig. 8) 



Fig 1 and 2: The patient had gaps between her anterior teeth



Fig 3 and 4: Retraction of the upper anterior teeth was completed using the Inman Aligner



Fig 5: Blue opalescence was added to the incisal areas of the central incisors



Fig 6: This was overlaid with Venus Diamond A2



Fig 7: The patient was reviewed two weeks later for final clinical photography and polishing



Fig 8: The patient was able to smile with confidence in her wedding pictures



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Dr Andrew has a keen interest in cosmetic and restorative dentistry. He is currently studying for a Masters in Clinical Dentistry with King's College, London, having undertaken a wide range of postgraduate education in this field. Andrew is a member of the British Academy of Cosmetic Dentistry and the Irish Academy of Aesthetic Dentistry. He runs regular courses on the Inman Aligner for dentists in Northern Ireland and Eire. Dr. Wallace practises at Bachelor's Walk dental surgery in Lisburn.

For more information visit www.bachelorswalk.co.uk.