

Composite restorations exceed patient's expectations

Manrina Rhode describes a minimally invasive technique using direct composite bonding to close a diastema and improve aesthetics



Figure 1: The patient was not happy with the spaces between her upper four anterior teeth and their shape



Figure 2: The patient was missing both upper laterals and had a small chip on her UR1

Dr Manrina Rhode

Cosmetic dentist at
The London Smile Clinic



A 35-year-old female attended The London Smile Clinic with concerns about the appearance of her front teeth. She was not happy with the spaces between her upper four anterior teeth and their shape (Figure 1).

The patient was also missing both upper laterals and had a small chip on the UR1 (Figure 2). She had never received orthodontic treatment. Two months previously, the patient had undergone teeth whitening at another practice. She was unhappy with the final shade and had experienced some sensitivity.

A full examination was carried out and photographs taken. Orthodontic findings were a class II, division I, incisor relationship and molar class II relationship on the left and right, with an increased overbite and overjet. The patient had indications of tooth wear on the upper centrals, and lower central and lateral incisors. The wear was probably caused by an historical grinding habit, which was not believed to be ongoing. No temporomandibular joint symptoms were noted and soft tissues were healthy.

Restorative options

During the consultation, treatment options discussed included the placement of six upper porcelain veneers. It was explained that veneers would involve minimally invasive preparation, but could still affect the vitality of the teeth.

Other treatments considered were composite resin bonding only, or a combination of orthodontics with a bridge or dental implants to replace the missing laterals.

The patient wanted an option that didn't include orthodontics. She wasn't keen on this treatment, even though, without it, a perfect aesthetic outcome may not be achieved.

The patient was interested in bonding, but was concerned the teeth would look too large. During the consultation, two mock-ups were created using Photoshop, one with a diastema and one without (Figures 3 and 4). The images were produced to show the patient the predicted proportions and help her to decide whether to have the diastema between the central incisors closed. The mock-ups also helped to confirm if the composite treatment would result in sufficient aesthetic improvement for the patient, given that bonding the front four teeth would not create a perfect smile.

Economical and minimally invasive

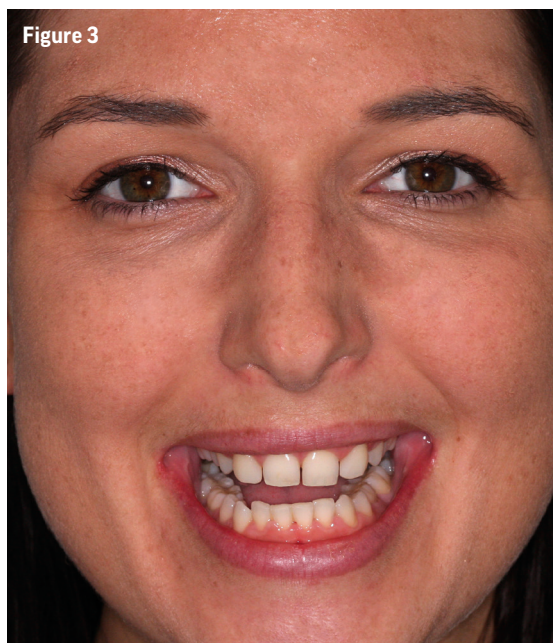
At the second appointment, the patient decided she

wanted composite bonding, although she remained worried about the teeth looking too large. To reassure the patient and confirm the treatment choice, a mock-up was completed in the mouth using Kulzer Venus Pearl. After taking photographs of herself, the patient was happier and decided to proceed with bonding to have the midline diastema closed and the canines contoured.

Composite restoration was the most economical, minimally invasive and straightforward treatment option available to her. Due to previous trauma, the UR1 had incurred a small chip that could be repaired with the same material.

Teeth whitening and preparation

The patient's teeth had been whitened to A1 after



Figures 3 and 4: Two mock-ups were created, one with a diastema and one without



Figure 5



Figure 6



Figures 5 and 6: Kulzer Venus Pearl B1 shade was placed on the upper centrals and then the canines, using a freehand composite technique



Figure 7: The final result. The patient now feels more confident about smiling and is a lot happier with her appearance

the previous treatment. She preferred a lighter colour and, after referring to the Vita shade guide, it was decided to aim for at least B1 with a course of home whitening.

During the same appointment, impressions were taken to allow custom-made whitening trays to be fabricated. Philips Zoom Daywhite, with 6% hydrogen peroxide, was used over 14 days.

After bleaching, composite bonding was delayed for a further two weeks to obtain optimal bond strength and allow the shade to settle.

I now feel more confident about smiling, especially for photos, and overall, I am a lot happier with my appearance

On the day of the treatment, the use of a latex-free lip and cheek retractor helped improve moisture control and provide a greater visual field.

A fine diamond bur was used to roughen the surface of the teeth to remove the smear layer. The teeth were etched with 35% phosphoric acid etch gel and bonded with a two-component, light-cured adhesive, using a total-etch technique, in accordance with the manufacturer's instructions.

Durable and aesthetic

Venus Pearl B1 shade was placed on the upper centrals, and then the canines, using a freehand composite technique (Figures 5 and 6). A Mylar strip was used, not pulled through, but held in place with a flat plastic shaping instrument while curing the composite to the correct shape.

The aesthetic properties of Venus Pearl worked well as a single shade and adapted perfectly to the colour of the surrounding teeth.

I have used Venus composites for more than 16 years and they have never let me down. The material is predictable, long-lasting and produces aesthetically pleasing results. Finally, the teeth were polished and shaped using Sof-Lex discs and diamond paste.

The patient was very happy with the final result (Figure 7). She explained: 'Bonding has definitely exceeded my expectations. I now feel more confident about smiling, especially for photos, and overall, I am a lot happier with my appearance.' **D**