

CLINICAL DENTISTRY

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Smile transformation with veneers: case reflection

Clive Brazier quizzes Manrina Rhode on a case in which she treated a patient with 20 porcelain veneers, and explores the minimally invasive debate of porcelain versus composite

On page 19 of this issue of *Clinical Dentistry*, Manrina Rhode presents a case report in which she helped a patient achieve a larger, whiter, more aesthetic smile using 20 IPS Emax lithium disilicate glass-ceramic veneers.

The following interview between Clive Brazier and Manrina presents a reflection of the case. The pair discuss whether the treatment provided was the best option or if an alternative plan could have given a better outcome.

Clive: For this case, you placed 20 porcelain veneers. Why was this the best option for the patient?

Manrina: It's what the patient wanted. We have to acknowledge that sometimes the patient's choice is the best course of treatment, when provided ethically in the least invasive way possible.

Clive: Looking at the preoperative photographs in the case report (Figure 1), he's got a little bit of spacing and the colour of his canines and premolars are mismatched. Did you consider bleaching

and bonding to achieve a satisfactory result?

Manrina: This patient was looking for the perfect smile. He was aware of tiny imperfections, different teeth lengths and embrasure sizes and was seeking to correct these. Whitening wouldn't have given him the even BL2 shade he was looking for. Could this result have been achieved with composite bonding? Yes, but by changing the teeth shade I would have needed to bond every tooth that would be visible when he smiled, so that would be a total of 20 teeth.



DR CLIVE BRAZIER
BDS

Clive is a GDP at a private practice in Kent. He has worked as a house surgeon in paediatrics and oral surgery for Guy's and St Thomas' NHS Foundation Trust. He graduated from Guy's Hospital, London in 2002.



DR MARRINA RHODE
BDS

After graduating from Guy's Hospital, London in 2002 Manrina has become a top cosmetic dentist in the UK.



FIGURE 1: Before – the patient wanted a 'perfect' smile



FIGURE 2: After – 20 porcelain veneers were placed

Clive: Would you have wanted to do 20 composite veneers?

Manrina: I could, but would they be long lasting? Would they look just as beautiful in 15 years? Would they look as beautiful in five years, or would they start to chip and stain, as we all know can happen with composite. The patient wanted to avoid repeat dental treatment to maintain his smile. He was aware that his oral hygiene would need to be meticulous, and he would need to wear a nightguard but he wanted the work to look great for as long as possible.

Porcelain veneers can be provided minimally invasively, when done correctly. We were really careful to prepare the teeth using the Galip Gürel technique. In this case, we prepared the teeth through his temporaries. The aim was also to make the teeth longer and wider as well as whiter, so they wouldn't require much preparation.

With this additive process, porcelain was applied to the surface. This will, in my view, offer greater longevity than composite.

LIFESPANS AND MAINTENANCE

Clive: You discussed his expectations and that the shade he wanted could not be achieved by bleaching alone, and you explained the treatment could have been completed with composite bonding, but longevity was the issue. Let's now talk about ongoing maintenance and replacement of veneers as opposed to replacement of composite. What are the lifespans of each and what damage are we likely to do to the teeth when we replace each type of restoration?

Manrina: I used to tell my patients that they had to replace their ceramics

after 10 years. Materials and techniques have evolved and now I see my patients 10 years on and their ceramics still look great. So nowadays I tell them porcelain veneers will last for around 20 years and composite bonding five years.

When it comes to repair, I would use composite for fractured porcelain or composite bonding. It means you can replace little pieces as and when required.

If it were a case of replacing all the composite veneers or porcelain veneers then the process of removing each would be the same. I would argue it is less invasive to remove porcelain veneers as I make a groove in them and break them off. With composite, I would need to use a drill and it can also be tricky to distinguish composite from enamel.

Clive: So, in other words, there isn't a 'no-prep' option for a long-lasting result?

Manrina: You wouldn't change the whole composite veneer but rather replace portions of bonding as necessary. But for someone with a high aesthetic need that wouldn't work. I have provided a lot of composite veneers on premolars when patients have porcelain veneers at the front and can't afford a full set on the sides. Premolars have a lower aesthetic demand but now the fashion is to have porcelain all over.

In our 22 years of experience, we have seen chipped and stained composite. As much as you polish the restorations and check occlusion, it is still something that happens in the long term. Porcelain is made in a laboratory, fired in an oven to a high polish and is far less likely to stain.

Clive: How many composite veneer fractures are you seeing compared to porcelain fractures?


Manrina: The porcelain veneers have been created to be occlusally stable. The patient in this case can only break them if he does something intentionally, such as using his teeth as a tool, or suffers a trauma. At that stage, I would repair the veneer with composite bonding or recement the fractured portion of porcelain.

Clive: If you are going to replace fractured porcelain with composite then why aren't you using composite in the first place?

Manrina: It is so rare that someone breaks their porcelain veneers. Actions that break teeth, break veneers.

Clive: Was this plan the only ethical option?

Manrina: I do everything I can to minimise the amount of preparation. I don't even recommend opening contacts unless necessary. It certainly wouldn't be ethical if we were drilling teeth for crowns. If a minimally invasive preparation is not possible, the pros and cons of all the options should still be given to the patient. Dentists can also learn to carry out the treatment in a minimally invasive way or refer to a colleague who can.

Clive: Thanks for sharing your reflections on this case, Manrina. I began this interview wondering if the patient could have been treated with a different plan. But actually, this was the most appropriate option for someone who wanted a very white shade of longer, wider teeth, while avoiding continual maintenance. The teeth did not require much preparation, any repairs are likely to be no less invasive than repairs to composite veneers, and the result will stand the test of time for this young man. 



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CASE REPORT

Read Manrina's full smile transformation with veneers case report on page 19 of this issue.



**DR MARRINA RHODE**

BDS

Manrina graduated from Guy's Hospital, London in 2002. She has an interest in aesthetic dentistry and is recognised as one of the top cosmetic dentists in the UK. Manrina sits on the editorial board for *Clinical Dentistry*, has been a judge for the Private Dentistry Awards and Dental Industry Awards and included in the Dentistry Top 50 for the past five years. She is a director of the British Association of Private Dentistry and past director of the British Academy of Cosmetic Dentistry. Manrina runs a cosmetic dentistry teaching academy (www.drmmr.co.uk/courses).

ENHANCED CPD

CPD hours: one

GDC development outcome: C

Topic: Aesthetic dentistry

Educational aims and objectives:

To present a custom-made, minimally invasive smile transformation using 20 IPS Emax lithium disilicate glass-ceramic veneers. This article qualifies for one hour of enhanced CPD; answer the questions on page 66 or scan the QR code.



Pressed ceramic veneers are the treatment of choice for patients wanting improvement in the shape, size and colour of their teeth. The material offers exceptional strength, resists stains and chipping, and creates restorations that are highly aesthetic and durable.

A conservative and minimally invasive approach can also be applied for veneer preparation. The Galip Gürel technique (Gürel, 2007) is a simple yet precise process that requires the removal of less tooth structure, preserving enamel with reliable and predictable results.

CASE REPORT

A 32-year-old patient presented at DRMR in 2020 for consultation. His main complaint was the aesthetics of his smile (Figure 1), and he was concerned his teeth were letting him down.

He wanted a makeover that would give him larger, brighter, whiter teeth and a more perfect-looking, 'Hollywood' smile (Figure 2).

PATIENT EXAMINATION

A full examination was carried out. Photographs and X-rays were taken.

The orthodontic and functional assessment revealed canine guidance, a class I incisal relationship and a class I molar relationship. The patient's overbite and overjet were normal. His lip seal was intact. The clinical examination showed no temporomandibular joint (TMJ) disorder complaints or symptoms. His masseter muscles were hypertrophic.

The patient had a healthy mouth, teeth and gums with one small filling on his UL6 and a chip on the LR1 (Figure 3).

The patient suffered from bruxism and appeared to be grinding his teeth rather than clenching. Some anterior wear was apparent.



FIGURE 1: The patient's main complaint was the aesthetics of his smile



FIGURE 2: He wanted a smile makeover that would give him larger, brighter, whiter teeth



FIGURE 3: The patient had one small filling on his UL6 and a chip on the LR1

Manrina Rhode presents a case in which she helps a patient achieve his desire for a larger, whiter, more aesthetic smile using 20 IPS Emax lithium disilicate glass-ceramic veneers

Smile transformation with veneers



TREATMENT OPTIONS

There was no requirement for orthodontic treatment as the patient's teeth were already very well aligned. Tooth whitening would not provide the optimal outcome as he wanted a very light shade that could not be achieved by bleaching alone.

His expectations were for minimal ongoing maintenance and a restoration that offered aesthetics and longevity.

The advantages and disadvantages of composite and porcelain veneers were fully explained to the patient. Composite bonding was a potential treatment option. However, due to the need to change the shade of the dentition, every tooth visible when smiling would require bonding, which was a total of 20 teeth.

I am not keen on covering the whole tooth with composite, as the material is more likely to chip and stain. Composite resin will typically last for around five years, whereas I would expect my porcelain restorations to have a lifespan of 20 years, if properly looked after.

Porcelain veneers can deliver a highly aesthetic and durable outcome using minimally invasive preparation techniques. In addition to a lighter shade, the patient wanted longer and wider teeth. This case, therefore, would require minimal preparation as porcelain would be added to the tooth surface.

CASE PLANNING

The patient was assured that his aesthetic concerns could be addressed by placing Ivoclar IPS Emax Press veneers on the teeth, UR₁ to UR₅, UL₁ to UL₅, LR₁ to LR₅ and LL₁ to LL₅.

I have been using IPS Emax veneers for 22 years and have provided more than 14,000 ceramics. Emax materials have never let me down. I am always confident of a predictable, beautiful, natural-looking result.

It was explained to the patient that he would have to maintain immaculate oral hygiene and wear a nightguard to protect his new restorations.

A hygiene appointment was made for a routine scale and polish prior to commencement of treatment. After visiting the hygienist, botulinum toxin type A was injected into the patient's masseter muscles to relieve the symptoms of bruxism and to prevent strong forces from damaging the new veneers.

Smile set-up

A stick bite and conventional impressions were taken (Figure 4), although nowadays an intraoral scanner would be used as part of my workflow. A full series of photographs were obtained and periapical X-rays taken of every tooth to be prepared. A wax-up was fabricated.



FIGURE 4: A stick bite and conventional impressions were taken



FIGURE 5: Any remaining pencil marks left on the original tooth surface were removed with a diamond preparation bur



FIGURE 6: Photographs were taken of the prepared teeth and base shades

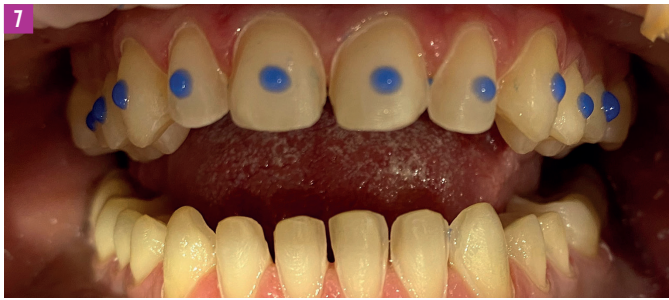


FIGURE 7: The teeth were spot etched and bonded, rinsed and dried



FIGURE 8: Luxatemp bis-acrylic composite shade B1 was selected for the temporary veneers



FIGURE 9: At the review appointment, the UR3 to UR5 were lengthened to correct an incisal cant



FIGURE 10: IPS Emax Press veneers shade BL2 were selected for the permanent restorations



FIGURE 11: Variolink Esthetic neutral shade was used for the adhesive cementation



FIGURE 12: The veneers were positioned and spot-cured

Tooth preparation

To assist with minimal preparations, the Galip Gürel technique was used. Local anaesthetic was administered. A temporary stent was made to replicate the shape and length of the wax-up and to outline the incisal edges. The stent was filled with Luxatemp, a bis-acrylic composite temporary material, and placed into the patient's mouth. Once set, the stent and excess temporary material were removed.

A depth-reduction bur was used at 0.3mm depth to pencil grooves on the teeth to be prepared for the veneers. The temporary material was peeled off and any remaining pencil marks left on the original tooth surface were removed with a diamond preparation bur (Figure 5). This ensured we were only preparing the teeth where necessary.

The incisal guide was used to check clearance on every tooth for placement of a 0.3mm IPS Emax veneer. The prepared teeth were tidied up

and supragingival and chamfer margins created. The incisal stent was placed back in the mouth and contacts checked to see if any contact point needed to be opened. The process was repeated on the lower arch.

Tooth shade determination and impression

Photographs were taken of the prepared teeth and base shades (Figure 6). The Ivoclar Ivobase Shade Guide was used to communicate the shade of the prepared teeth to Precision Dental Studio. The laboratory was also informed of the brand of shade guide to ensure accuracy.

An analogue impression was taken using Ivoclar Virtual putty. The vinyl polysiloxane impression material always provides exceptional readability and precision. Two impressions were taken of each set of upper and lower teeth to reduce the risk of air bubbles, drags and voids. A bite registration of the upper and lower prepared teeth was recorded.

Temporary veneer placement

Ivoclar Optragate latex-free lip and cheek retractor was placed for an accessible and manageable treatment field. The teeth were spot-etched and bonded, rinsed and dried (Figure 7).

Luxatemp shade B1 was selected for the temporary veneers (Figure 8). The material was syringed into the stent and gently placed over the patient's teeth until set.

A small amount was placed on a glove so that the setting time could be checked. The excess was carefully cleaned off and the matrix removed.

The procedure was repeated on the lower jaw. Polishing was completed, the bite checked, and margins cleaned.

The patient went home to try out his temporary veneers. The next day, the UR3 to UR5 were lengthened to correct an incisal cant (Figure 9). An alginate impression was taken and sent to the laboratory.



FIGURES 13 and 14: Superior aesthetics and long-term function were achieved



FIGURES 15 and 16: The patient was delighted with his smile transformation

PERMANENT RESTORATIONS

Two weeks later, the patient returned to have his IPS Emax veneers placed. Shade BL2 had been selected for his permanent restorations using the Ivoclar A-D shade guide with bleach shades (Figure 10).

Five per cent lignocaine was administered as buccal infiltration. The temporary material was removed and a yellow diamond bur run over the surface of the teeth to ensure that no bond remained.

The patient's teeth were cleaned and flossed and his oral health and gums checked. The IPS Emax ceramic veneers were dipped in water, tried-in the mouth and shown to the patient.

Once the patient was happy, each veneer was etched with hydrofluoric acid and washed off. Ivoclar Monobond Plus was applied to the inner surface of the veneers using a microbrush.

The enamel and dentine were etched using 37% phosphoric acid and a primer and bond applied. Ivoclar Variolink Esthetic neutral shade was used for the adhesive cementation of the dental restorations (Figure 11).

The material's consistency makes it easy to use and provides excellent results with a reliable, predictable bond.

Opragate was used to retract the lips evenly and gently, and gauze placed on the tongue. The

veneers were positioned and spot-cured (Figure 12). Residual cement was removed and the veneers cleaned and flossed. Each veneer was light-cured.

The restorations were finished with a long yellow diamond bur underneath the gingival margin and a rugby-shaped yellow diamond bur was used at the margins. A serrated strip and yellow metal polishing strip were used to clean between the teeth. The teeth were flossed and the bite checked.

An alginate impression was taken for fabrication of the night guard.

SUPERIOR AESTHETICS

I was pleased with the outcome and, although our bonding process has changed since this case, my workflow, techniques and materials of choice are much the same today.

Along with minimally invasive preparation, we provided the patient with custom-made, superior

aesthetics and long-term function (Figures 13 and 14). The patient was delighted with his smile transformation (Figures 15 and 16).

Five years on, he is still enjoying his larger, whiter, 'perfect' smile and will continue to do so over many years.

CASE REFLECTION

Clive Brazier and Manrina Rhode present a case review on page 25 of this issue, in which they explore the minimally invasive debate regarding porcelain versus composite veneers and treatment outcome. [C](#)

PRODUCTS USED

IPS Emax Press veneers, Ivobase, Virtual putty, Opragate, Monobond Plus, Variolink Esthetic Ivoclar Luxatemp DMG



REFERENCE

Gürel G (2007) Porcelain laminate veneers: minimal tooth preparation by design. *Dent Clin North Am* 51(2): 419-31



SMILE MAKEOVER COURSE

To learn more about Dr Manrina Rhode's smile makeover course, visit www.designingsmiles.co.uk or email academy@drmr.co.uk.

