

# Meeting Patient Needs & Transforming Smiles with Direct Veneers

By Dr. Mohammad Zuhair Al Khairo, UAE

## Introduction

"I can't afford E-max Veneers, do you have something more affordable?" is a question often encountered in clinical practice today!

Being a restorative dentist with more than 15 years of experience in private practice, I have been asked this question innumerable times. With the recent advances in direct resin technology, I am able to confidently say "YES" and provide an alternative of composite resin-bonded veneers with an emphasis on preserving tooth structure. The next question the patient asks with much anticipation is "what is the difference?". Since I started using a nano-hybrid, bioactive composite resin with a porcelain like shade, the one-word answer to this question is "COST!!".

Compared to a decade or two ago, today we encounter more internet-informed patients who visit the clinic with a preconceived notion, which you are expected to fulfill. Therefore, the dynamics of treatment planning has changed towards providing a suitable solution while managing patient expectation.

The advancement in composite resin technology with natural shade replication has created an avenue for clinicians to offer highly standardized, predictable restorations in terms of aesthetics, strength, polishability and durability. Shofu composites are unique as they are bioactive and provide an additional acid neutralization and anti-plaque effect to minimize caries risk while enhancing longevity of the restorations.

Being a firm believer in prevention and minimally invasive treatment, we follow a stringent prevention

protocol that I call "3X Protocol". Part of this protocol emphasizes "X for Prevention from eXtension" which has been modified from GV black principle "Extension for Prevention". Another "X" for eXpenditure, evaluates the cost benefit and to provide cost-based treatment options to the patient. The final "X" would be managing patient eXpectation as this is a crucial element of cosmetic dentistry. The "3X Protocol" has enabled us to provide a more conservative patient-centred treatment with the desired aesthetic outcome while preserving natural tooth structure.

The patient case presented below is an anterior diastema with old discolored composite restorations. In clinical situations with multiple diastema, it is important to first evaluate treatment options from a restorative point of view before considering orthodontic treatment. In order to achieve long-term stability and predictable outcomes over time,

the restorative plan should consider different aspects such as:

1. Arch /space discrepancy in relation to occlusion.
2. Restorative material of choice
3. Biological cost and patient's financial limitations.

## Patient case

A young female patient visited the clinic requesting for an enhanced smile as she was unhappy with the appearance of her front teeth after completing orthodontic treatment. Upon careful examination it was observed that composite resin restorations were used for diastema closure before orthodontic treatment (Fig 1, 2). The filled teeth had chipped at the incisal edge and had a grey discoloration. After careful evaluation the following treatment options were suggested to the patient:

1. E-Max Indirect Veneers with minimum tooth preparation,
2. Direct Resin-Bonded Veneers with no tooth preparation.

After the treatment planning discussion, the patient requested to proceed with direct resin-bonded composite veneers to enhance her smile. After the old composite fillings were removed (Fig 3, 4), smile design, was done to restore the golden proportion by modifying the shape and size of the teeth. Based on the smile design a mock-up was created to help obtain patient approval on the expected outcome and fabricate the silicone index.

## Material Used

- Prepare: Shade Selection & case documentation - EyeSpecial C II (Shofu)
- Restore: Beautifil II LS shade A2O, A1, Beautifil Flow Plus FO3 shade INC and Beautifil II Enamel HVT Composite (Shofu)
- Finish: Yellow banded Fine diamond bur, Super-Snap Black disk, for contouring and Super Snap Purple disk for finishing (Shofu)
- Polish: OneGloss polisher, Super-Snap X-Treme Green and Pink disks
- Super polish: Super Buff impregnated buff disk for enamel like lustre (Shofu)

## Restorative Approach

### Smile Design

Digital Smile Design DSD, was used to reestablish proper proportion of the teeth and redesign the smile according to lower lip line, (Fig 5).

Tip: Smile design is a great aid to establish correct golden proportion and help convince the patient on the treatment plan

### Wax up

Indirect wax up was performed according to the smile design, (Fig 6).

Tip: Since it is a prep-less case the lab should be informed not to prepare the cast during wax-up.

### Direct Mockup

Silicon mold was used to create a direct mockup trial to ensure proportion compatibility, occlusion and obtain patient approval.

Tip: checking the occlusion at this stage helps identify the points of interference that might affect the final restoration design and minimize adjustments.

### Silicon Index

Silicone index with putty impression material was used to create the palatal shell of the restoration for each tooth separately (Fig 8).

Tip: make the index with incisal wrap to help duplicating the thickness of the incisal edge (Fig 9).

### Shade selection

Accurate shade selection was carried out using the direct technique where small buttons of each composite material was placed directly on the tooth surface. Beautifil II LS shade A2O was identified for Hue specification, Beautifil II Enamel HVT was identified to restore the value since the case involved bleaching 10 days prior to the restorative procedure. Beautifil II LS shade A1 and B1 were compared under Shade Isolate Mode using EyeSpecial C II to determine the ideal Chroma and shade A1 was identified as the most suitable shade (Fig 10, 11). Beautifil Flow PLUS FO3 INC. shade was selected to create the palatal shell.



Fig 1: Pre-operative macro view of patient smile



Fig 2: Pre-operative retracted view



Fig 3: Smile after removal of old restorations



Fig 4: Retracted view after removal of old restorations



Fig 5: Digital Smile Design



Fig 6: Indirect Wax-up



Fig 7: Direct mockup to assess occlusion and obtain patient approval

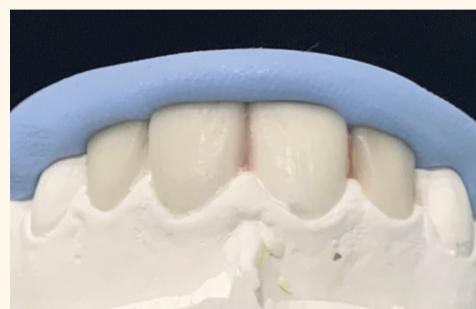


Fig 8: Silicone Index fabricated with putty impression material

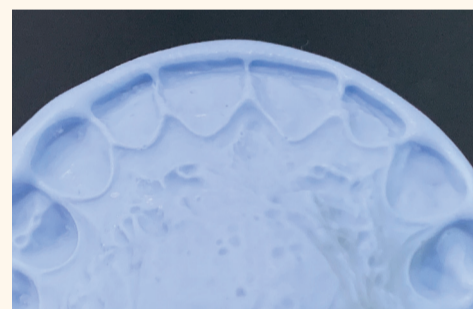


Fig 9: index with incisal wrap to help duplicating the thickness of the incisal edge



Fig 10: Direct placement technique for shade selection



Fig 11: Final recipe of shades for the restoration



Fig 12: Shade confirmation using the Isolate Shade Mode of EyeSpecial CII camera



Fig 13: Shofu EyeSpecial camera



Fig 14: Natural Aesthetics achieved with direct veneers



Fig 15: Patient smile post treatment

◀Page 28

Tip: Shade Isolate Mode removes the influence of the background gingival colour and helps obtain a more accurate shade selection (Fig 12, 13).

#### Composite Layering

Teeth were polished using non-fluoridated paste, etched and bonded. Restoration of each tooth was completed separately in a progressive manner according to a customized color scheme, (Fig 14)

- Palatal shell was created using the silicone index with a very thin layer of Beautifil Flow Plus FO3 shade INC composite

- Proximal walls were created using Beautifil II LS shade A1 with a layer of Beautifil II Enamel shade HVT on top - Beautifil II LS shade A20 was used incisally as a very thin line to help recreate the Halo effect and placed cervically as the first dentin layer, Beautifil II LS shade A1 was used to build-up the body dentine layer leaving to restore dentine color leaving 0.5 mm for the final enamel layer with Beautifil II Enamel shade HVT (Fig 14).

Tip

• A flowable composite Beautifil Flow Plus FO3 should be used to create a thin palatal shell and ensure adaptation to tooth structure.

• A kidney shape matrix band was adapted to create the proximal walls and the contact with the adjacent teeth. Lateral incisors were restored before the central incisors to help reduce finishing time and material wastage.

• Use a brush such as Uni Brush (Shofu) to adapt the composite and refrain from using a resin liquid as it affects the composite colour

• Final layer of enamel should be 0.5 mm all around to ensure uniform finish with proper shade characteristics

#### Contouring and Finishing Protocol

- Yellow banded Super Fine Diamond burs in high speed and Super-Snap Black disks in low speed were used to contour and create a uniform surface.

- Super-Snap Purple disks were used to create the mesial and distal reflective line angles.

- One Gloss polisher was used in the cervical area and to achieve the natural surface texture.

- Super-Snap X-Treme Green and Pink disks were used to polish the restoration.

- Super Buff impregnated super polisher was used for final polishing to achieve enamel-like luster.

#### Results and Conclusion

The planned cosmetic restorative treatment with non-prep composite resin veneers was successfully completed and the patient was extremely happy with her enhanced "natural" smile (Fig 14, 15). The emphasis on shade selection and adoption of the 3X protocol which takes into consideration "prevention from eXtension" by avoiding over-preparation, "prevention from undue eXpenditure" by eliminating cost while maintaining quality and "managing patient eXpectations". As a clinician, our final aim with cosmetic treat-

ment is to recreate a natural smile that meets or exceeds the patient's expectations while ensuring longevity of the restorations. This concept can be easily achieved today with the help of innovative, bioactive composites capable of recreating natural life-like aesthetics with a predictable outcome. **DT**

#### About the author

##### Dr. Mohammad Zuhair Al Khairo

Dr. M. Zuhair AK., earned his bachelor degree in dental surgery from Mosul University, Iraq in the year 1999 with the degree of honor. Two years later he specialized and trained in Conservative Dentistry where he was mentored by the renowned Prof. Abdul-Haq Abdul Majeed Suliman. At the department of Conservative Dentistry, Mosul University, Iraq. He had his own practice in Iraq early in year 2001

where he gained a very big reputation for his delicate, professional and honest way of dealing with his patients. In the year 2005 he moved to Dubai UAE to extend his experience across a different parts of the globe. His settling in Dubai for more than 8 years now gave him the chance to give his imprint by practicing international quality healthcare standards which has been internally developed and continuously improved over the years through rigorous clinical compliance parameters. In year 2013 he gained the German Board of Oral Implantology from Muenster University/DGZI with the first degree of honor among 29 students. Since then he has been awarded the membership of the German Association of Dental Implantology DGZI. Today, Dr. M. Zuhair's philosophy of dental care is more and more towards developing a high standard dental practice that offers a good quality dental service through combining the experience of a highly trained team and state of the art dental equipment.

## Mectron launches own continuing education platform

#### By Dental Tribune International

The dental community is facing extraordinary times, and it has responded by adapting and implementing new strategies. This is also true for continuing education (CE) in dentistry. Embracing the opportunities of e-learning, Italy-based dental company mectron has recently

launched a webinar platform, which will provide dental professionals access to clinically relevant presentations 24/7 free of charge.

The new industry-wide dental CE platform delivers free CE accredited content through the convenience of the Internet. After quick and easy registration, dental professionals

will be able to attend live webinars and watch recorded webinars on-demand, and these will cover a wide range of topics relevant to the oral healthcare professional community, including implant treatment and prophylaxis. Twelve webinars in English, French, German, Italian and Portuguese are already planned and will become available soon on

the platform. More webinars will be scheduled in the second half of this year.

Andre Reinhold, mectron's international marketing manager, told Dental Tribune International that the company had been planning to start a Web-based education platform for some time already. However, the

recent COVID-19 outbreak and the related restrictions on travel and events, which have rendered maintaining customer relations almost impossible, prompted mectron to go online now.

"E-learning has become an effective tool for us to stay in contact with our customers and reach out to new customers, especially in regions in which mectron does not yet have a local branch," Reinhold said. "Although this online platform cannot replace physical presentations in the long run, it definitely facilitates access to and helps raise interest in our products. Through the webinars, dental professionals are provided with a comprehensive overview of the advantages of our products in daily practice," he explained.

The feedback has been overwhelmingly positive. "Within the first week of the launch, over 1,300 members registered. The registrations for the single webinars have also exceeded our expectations," Reinhold stated.

Since 1979, mectron has been one of the major players in the international dental industry, producing surgical, ultrasonic, air polishing and LED polymerisation devices, which are available in over 80 countries worldwide. With the introduction of the first ultrasonic titanium handpieces, the first LED polymerisation lamps for composite materials and, in 2001, the first ultrasonic surgical unit for piezoelectric bone surgery, mectron has developed some of the most important innovations in the dental field. **DT**

More information about upcoming webinars can be found on the platform website at <https://education.mectron.com/>

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