

# SMILE IN AN HOUR WITH COMPONEER

Niladri Maiti<sup>\*1</sup> and Duran Kala<sup>\*\*</sup>

\*Associate Professor, Department of Endodontics, Faculty of Dentistry, Tishk International University., \*\*Dean & Lecturer, Faculty of Dentistry, Tishk International University

**ABSTRACT** This case report describes the step-by-step procedures of clinical cases using prefabricated composite resin veneers (COMPONEER), manufactured with the Brilliant New Generation composite resin (Coltene, Altstätten, Switzerland). Direct composite veneers presented some drawbacks such as the difficulty of execution and color instability of the composite resin over time. The simplified application of the has been introduced as an interesting alternative in cases of smile asymmetry, large deficient restorations and discoloured teeth. The treatment with COMPONEER Brilliant NG yielded excellent aesthetic results. COMPONEER is simpler than direct composite veneer technique. The specific characteristics of the system can promote the results with greater aesthetic longevity. It is important to highlight that this procedure does not replace the already established veneer technique with dental ceramics.

**KEYWORDS** Componeer, Dental veneer, composite resin

## Introduction

COMPONEER is an innovative and easy-to-use system for restoring anterior teeth which are polymerised, prefabricated nano-hybrid-composite enamel shells that combine the advantages of direct composite restorations with the advantages of prefabricated veneers.

Prior to COMPONEER the treating dentist could only chose between a directly modelled composite restoration or elaborate indirect veneer technology. Dental veneers have become an attractive treatment in dentistry spurred by the development of different materials and techniques, associated with the aesthetic patterns imposed by society.[1] In general, patients that presented clinical scenarios in the anterior teeth such as increased interdental spaces, fractures, deficient restorations or color changes are indicated for the treatment with veneers.[2,3] The success of the veneers is associated with the dentist's knowledge, the technique used, the restorative material and the patient's co-operation.

Dental Ceramics are biocompatible and exhibit high wear resistance and great color stability. Nowadays, ceramic is the main

restorative material used in veneer treatments.[5,6] However, some specific properties such as brittleness and the superior hardness of the ceramic in relation to the dental tissue are considered the disadvantages for this class of restorative materials. Additionally, the high cost of the ceramic prevents some patients from proceeding with the treatment.[7,8] Restorative protocols with direct composite veneers have been introduced as an alternative for patients who cannot afford the high inherent cost of ceramics. Although cheaper, this technique presents some drawbacks, including the difficulty in the mirroring, color matching, construction of structures (e.g. dentin mamelons and enamel characteristics such as translucency/opalescence) and the incorrect reproduction of the dental surface texture.[9] Additionally, the time required to execute the resin veneer, the color instability of the material, marginal infiltration and secondary caries are also critical factors that might intimidate the dentist to carry out the technique.[5,9] Whether for incisor extensions, the covering of massive discolouration or the closing of diastemas, aesthetic corrections can be carried out easily and fast with COMPONEER. This closes the gap between time-consuming freehand and expensive invasive veneer techniques. Fractures, malposition or anatomical malformation can, of course, also be elegantly and permanently restored using the Direct Composite Veneering System. Especially in extensive reconstruction, the contralateral teeth can be efficiently set to symmetrical positions.

Copyright © 2020 by the Bulgarian Association of Young Surgeons

DOI:10.5455/IJMRCR.componeer-dental-care

First Received: January 22, 2020

Accepted: January 31, 2020

Manuscript Associate Editor: Ivan Inkov (BG)

<sup>1</sup>Associate Professor, Department of Endodontics, Faculty of Dentistry, Tishk International University, email: niladri.maiti@tiu.edu.iq



Figure 1:



Figure 2:

### Case report

A 31-year-old male patient came to the university clinic with proximal caries in tooth 22 (Figure 1). A clinical examination revealed acceptable periodontal condition. After analyzing the size of the restoration and the desire of the patient in solving the problem, rehabilitation COMPONEER – (Coltene) was proposed (Fig 3a). The color matching was performed with a color shade guide of Componeer system. The color matching of the Componeer relies on the concept of natural layering, in which two layers of the incremental technique is able to mimic the natural aspect of the teeth. The treatment proceeded with the selection of the Componeer size (medium), using the contour guide specific to the Componeer (Figure 3b). This contour guide presented different sizes of Componeer (small, medium, large and extra-large) for the antero-superior and inferior tooth. The dentist can always select the correct size for each patient, respecting the fundamentals of the aesthetic smile.

A minimal preparation was performed on the labial surface with a diamond bur to facilitate the setting of the Componeer (Figure 2). The dental substrate was etched with 37% phosphoric acid (Magic Acid, Coltene) for 30 seconds, followed by abundant water rinse and drying. The adhesive system One Coat Bond (Coltene) was applied with a Technobrush (Coltene) on the tooth and the internal surface of Componeer. The Brilliant EverGlow composite resin (A2/B2 dentin) was used to place the veneer (Figure 4). Clinical steps of tooth wear, adhesive procedure and cementation were executed without the use of a rubber dam. The control of moisture was ensured through the insertion of the retraction cord. Such a technique allows a satisfactory control of the gingival fluid and facilitates the correct positioning of Componeer with ease. After positioning of the veneer,



Figure 3a:



Figure 3b:



Figure 4:

all the surfaces were light-cured with SPEC 3 light-curing unit (Coltene, Altstätten, Switzerland). Finishing and polishing were performed using Diatech points and brush.

## Discussion

Both direct and indirect veneer techniques are available for anterior restorations. The design of the tooth preparation can be extensive (e.g. total crown) or minimally invasive (e.g. veneers).[4] Although different, both crown and veneer treatments require multiple clinical and laboratory steps. Therefore, the single session required in the treatment with pre cured resin veneer has attracted a lot of attention in the dental community.[11,12,13,14]. The ceramic veneers have been considered the gold standard due to their well-known properties.[5,6] A previous study reported high survival rate of ceramic veneers, especially when the luting procedure is limited to enamel tissue.[6] The Componeer Direct Veneering system (Coltene) was introduced in 2011.[16] It is inferred that the treatment used in the manufacturing of the Componeer could result in a high degree of conversion of the composite. In theory, this polymerization can promote an increase in the density of cross-linked double bonds into the polymer network. This reaction can decrease the amount of non-reactive components, resulting in a material with high strength, hardness and color stability in relation to direct photo activated composites.[10,15]. The Direct Composite Veneer System adds an interesting dimension to these treatment options and gives dentists and patients additional economic perspectives. Patients can be given a naturally aesthetic smile in just a single session, and come away smiling - with a "smile to go".

- easy-to-use and efficient due to the well-thought-out system
- quality aesthetic dental restoration in just a single session
- extremely thin veneers allow for a high level of conservation of hard tooth substance during preparation
- novel micro-retentive inner surface increases wettability and ensures a lasting bond
- easy to customise with composite
- wide range of uses in aesthetic and clinical applications

## Conclusion

COMPONEER have been advocated as an alternative to direct composite veneers. The simplified execution and improved properties of the COMPONEER system gives great results with greater longevity. With COMPONEER, quality aesthetic restoration of anterior teeth can be performed efficiently in just a single session. Until now, the dentist could only choose between a directly modelled composite restoration or elaborate indirect veneer technology.

## Conflict of interests

No any potential conflicts of interest.

## References

1. Moraschini V, Fai CK, Monte Alto R, Santos GO. Amalgam and resin composite longevity of posterior restorations: A systematic review and meta-analysis. *J dent* 2015; 43; 10431050.
2. Peumans M, Van Meerbeek B, Lambrechts P, Vanherle G. Porcelain veneers: a review of the literature. *J Dent* 2000; 28: 163-177.

3. Albanesi R B, Pigozzo MN, Sesma N, Lagana DC, Morimoto S. Incisal coverage or not in ceramic laminate veneers: A systematic review and meta-analysis. *J Dent* 2016; 52: 1 -7.
4. Pincus CR. Building mouth personality. A paper presented at: California State Dental Association 1937; San Jose, California.
5. Demarco FF, Collares K, Coelho-de-Souza FH, Correa MB, Cenci MS, Moraes RR, Opdam NJ. Anterior composite restorations: A systematic review on long-term survival and reasons for failure. *Dent Mater* 2015; 31(10): 1214-24.
6. Gurel G, Sesma N, Calamita Ma, Coachman C, Morimoto S. Influence of Enamel Preservation on Failures Rates of Porcelain Laminate Veneers. *Int J Periodontics Restorative Dent* 2013; 1:31-39.
7. Anusavice KJ. Standardizing failure, success, and survival decisions in clinical studies of ceramic and metal-ceramic Brilliant NG: the new generation of Componeer system 145 JODDD, Vol. 12, No. 2 Spring 2018 fixed dental prostheses. *Dent Mater* 2012; 28(1): 102-111.
8. Rashid H, Sheikh Z, Misbahuddin S, Kazmi MR, Qureshi S, Uddin MZ. Advancements in all-ceramics for dental restorations and their effect on the wear of opposing dentition. *Eur J Dent* 2016.10(4):583-8.
9. Heintze SD, Rousson V, Hickel R. Clinical effectiveness of direct anterior restorations—A meta-analysis. *Dent Mater* 2015;31(5):481-95.
10. Gomes G, Perdigao J. Prefabricated composite resin veneers—a clinical review. *J of Est and Rest Dent: official publication of the American Academy of Esthetic Dentistry* 2014;26(5):302-13.
11. Martini CE, Parreiras SO, Sezs AL, Pupo YM, Gomes GM, Mongruel OMG, Gomes JC. Aesthetic Treatment with Prefabricated Composite Veneers— Case Report. *Dent O Cran Res* 2016. 2(3): 282-286.
12. Gonçalves R, Correia I, Cardoso Ferreira J, Pires P, Carvalho MT, Pina-Vaz I. Descoloração dentinária: aplicação de facetas Componeer®. *Rev Port Estomatol Cir Maxilofac* 2015;56(2):132-8.
13. Migliau G, Besharat LK, Sofan AAA, Sofan EAA, U. R. Endo-restorative treatment of a severely discolored upper incisor: resolution of the “aesthetic” problem through Componeer veneering System. *Ann Stomatol* 2015;3(4):113-8.
14. Du Toit J, Patel N, Montalli V, S. J. Aesthetic treatment of severely fluorosed teeth with prefabricated composite veneers: a case report. *IntDent—AfricanEdition* 2012;2(6).
15. Perdigao J, Sezinando A, Munoz MA, Luque-Martinez IV, Loguercio AD. Prefabricated veneers - bond strengths and ultramorphological analyses. *J Adhes Dent* 2014;16(2):13746.
16. Dietschi D, Devigus A. Prefabricated Composite Veneers: Historical Perspectives, Indications and Clinical Application. *Eur J EsthetDent* 2011;6;(2):2-11.