

REVIEW ARTICLE

Componeers

Meera K Chandramouli

ABSTRACT

Componeers are prefabricated composite veneer system. The componeer is an emerging esthetic solution for the treatment of discolored, fractured, or congenitally malformed teeth, which once required full coverage restorations. These componeers combine the superior esthetic of ceramic veneers, and the bondability to tooth structure, such as direct composite veneers. Precontoured enamel shells with excellent color stability, no laboratory procedure, and cost-effectiveness provide an added advantage. It represents an innovative approach that bridges between ceramic veneers and direct composite veneering and overcomes the limitation of either approach. This article gives a brief review of recently introduced componeers: A milestone in veneer technology.

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INTRODUCTION

In our routine Out Patient Department, all of us get patients with that one single crooked tooth, gaps between teeth, with discolored teeth. We generally offer them porcelain laminates and veneers which all patients cannot afford. We all know that imperfect front teeth can impact one's self-esteem and sense of self-worth. As dentists, do not you think that we should offer these patients as much?

SMILES

Yes, all of us would love that million-dollar smile of a Hollywood/Bollywood actress. This flashy smile of these actors and actresses are generally a result of those porcelain laminates/veneers. These porcelain laminates and veneers usually cost around \$1000 to 2000; quite expensive for the general population. What if we can get this smile at half the cost, lesser time, with the desired esthetic result? How? The answer: The "componeers."

Clinical Practitioner

Integrated Dental Aesthetix, Meenakshi Dental Clinic, Mumbai Maharashtra, India

Corresponding Author: Meera K Chandramouli, Integrated Dental Aesthetix, Meenakshi Dental Clinic, Shop no. 420 Rd.No.1, Opp Jain Mandir, Parksite Colony, Vikhroli West Mumbai, Maharashtra, India, Phone: +919322590570, e-mail: meera3132@gmail.com

COMPONEERS

For many years, color, shape, and structural and positional abnormalities of anterior teeth have led to important esthetic problems for patients. A plethora of treatment options has been described to resolve the esthetics concerns of patients, which include procedures, such as ceramic veneers, all ceramic crowns, metal ceramic restorations, as well as direct composite veneering.^{1,2} From the mid-1970s, boosted by the development of adhesive materials and techniques, various concepts have emerged.² The most conservative approach for correcting tooth shape is direct resin composite veneers, because it can be achieved without removal of tooth structure.^{1,2} The tooth can be easily reshaped and polished using these veneers, especially in the emergence angle of the crown. In addition, this treatment is less expensive compared to ceramic veneers. However, a composite veneer abrades and discolors with time. Indirect ceramic veneers, another conservative option, possess high abrasion resistance and good color stability.³ Although ceramic veneers are expensive than direct composite veneering, they provide superior esthetics and a more natural appearance. The limitations associated with ceramic veneers are technique-sensitive laboratory preparation and they are time-consuming. Despite this, adhesive strength of the ceramic to the composite cement layer remains low, and this is the region where most failures occur. Therefore, an alternative treatment, which combines the superior esthetic of ceramic veneers, and the bondability to tooth structure, such as direct composite veneers, is required. Componeer represents an innovative approach that bridges between ceramic veneers and direct composite veneering and overcomes the limitation of either approach. It represents a high quality, long-lasting esthetic restoration, i.e., both conservative and cost-effective. The shiny and naturally designed surface adds a look of vitality to the restoration. Precontoured enamel shells with excellent color stability, no laboratory procedure, cost-effectiveness provide an added advantage. There is no difference in modifiability compared to a direct composite veneer and, however, its ease of application makes it extraordinarily time-efficient. However, unlike ceramic veneer, they can be easily repaired. Componeers are manufactured from nanohybrid composite that ensures excellent homogeneity and stability of the enamel shells. The extremely thin veneer (0.3 mm) allows conservation of tooth structure. The micro-retentive inner surface ensures a lasting bond,

therefore, conditioning of the veneer is not required, making it a milestone in veneers.^{4,5}

CLINICAL CASE SELECTION

The case selection is done with proper diagnosis, X-rays, and appropriate treatment planning and getting informed consent of the patient. The procedure is usually painless, however, to avoid any sensitivity/pain minimal anesthesia may be necessary. A local infiltration/intra-ligamentary anesthesia should keep the sensations at bay. The next important procedure is to take the shade of the tooth/teeth. Daytime, it would be advisable to rely on direct sunlight for shade selection. Nighttimes, it is better to rely on white light in dental office. After shade selection, comes the componeer selection. Componeer of the same shade, size, and shape of the tooth would have to be selected. The tooth preparation is similar to that of porcelain laminates. However, the preparation time is lesser and more conservative, as componeers are thin shells, the amount of tooth reduction would be less too. After tooth preparation the "componeer trial" is mandatory. It is possible even now to change the earlier decision and choose an entirely different componeer for use. The originally selected componeer can also be trimmed, reduced, shaped, and sized to match the desired effect. Once componeer trial is taken, the tooth preparation and componeer trial is satisfactory; it's time to lute the componeer. Componeers are handled with a special tweezers given in the kit. Luting is usually done with dual-cure composites. The tooth and the componeer are both respectively, etched and bond applied and cured, both are treated now to the dual-cure composite. Now, the componeer is placed over the tooth surface, adjust the position, the alignment of the tooth as desired. Dual-cure composites offer a longer working time. Once the desired positioning is achieved, the componeer is pressed hard over the tooth to remove any voids/air bubbles, tapped from the top, and light-cured. Interproximal spaces can also be finished with strips provided.

COMPONEERS VS PORCELAINS

Componeers are resin material similar to composite resins used in dentistry. They are thin shells of precured resins; unlike porcelain which contains silica and is similar to glass. Its mechanical strength is much lower than that of porcelain and surface hardness is lesser than porcelain. Vice versa, though porcelain is superior to componeers; porcelain is highly likely to break and get crushed whereas componeers are generally unbreakable. Porcelain has higher chance of chipping off than componeers. Similarly, though the surface hardness in porcelain is more, however, the polishability of porcelain is higher

with the result of a glossy appearance. Componeers are polishable too as they are similar to composite resins. However, as far as esthetics is considered, porcelain is superior though componeers are at par with porcelain. For porcelain veneers or laminates, at least 2 mm to 3 mm of tooth surface would have to be reduced as the porcelain themselves are about 1 mm thick. However, the componeers are thinner shells about 1 mm in thickness and hence, tooth reduction on the labial surface would be around 1 mm or so for componeers. Hence, the tooth reduction on the labial surface is lesser for componeers than porcelains. The proximal sides would have to be at right angles for porcelain, making sure the proximal line angles are parallel to each other. In a componeer, however, the proximal line angles can be rounded off as any modification can be done using composites while finishing. The cervical margin for porcelain can be given supragingivally, gingivally, or subgingivally whereas for the componeers, the cervical margin finish line should be given gingivally or supragingivally. Cervical finish line/margin for porcelains, we prefer butt joint with straight fissure bur and for componeers a chamfer margin is preferable. Bevels have to be placed for both componeers and porcelain (likely to chip off with presence of any sharp margins, line angles, or point angles). Though componeers do not chip off, it is essential to place bevels taking esthetics into consideration. Componeers can be finished off with similar shade of composites. Due to this fact, they are highly polishable, hence, rendering high level of esthetics at par with porcelains. Componeers are as attractive as porcelain, especially as is easy to polish. They are esthetically pleasing and used for smile designing giving the patient a new smile. Componeers usually is a one visit procedure whereas porcelain takes a couple of sittings. No laboratories involved, so lab time and expenses get reduced. Tooth reduction with componeers is minimal and conservative than for porcelain. Tooth can be shaped, trimmed size, and reduced as desired. For porcelain, the shade, the size, the shape, the polish, and glaze are all determined by the laboratories whereas here, the dentist can make the choice and finish it to his and patient's satisfaction. Porcelain can break, get crushed, chip-off, fracture and are unrepairable, whereas componeers can be refixed and repaired and are unbreakable. Even mild discoloration can be masked with a similar shade composite. Less expensive than porcelain with high esthetics can give many a new smile.

CONCLUSION

Even though porcelain is brilliant, glassy and glossy with a permanent finish, since it is expensive, it cannot

be afforded by many. Componeers may be the solution to an average working class population: The students and professionals who would be only too happy to have a new smile.

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