

# Gingival Veneer Prosthesis in Dentistry – A Review

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**Abstract:** The apical migration of the gingival margin to the cemento-enamel junction (CEJ) is known as gingival recession or open interdental space. There are several non-surgical treatments for treating gingival recession defects, including establishing optimal plaque control, behavior modification therapies, removing overhanging subgingival restorations, and using desensitizing agents. The root surface can be covered with a variety of biomaterials and periodontal plastic surgery techniques to correct mucogingival problems. When a surgical approach is required, the most predictable treatments for single and multiple recession defects are considered to be a coronally advanced flap, tunnelling procedures combined with a connective tissue graft, and a laterally positioned flap. Periodontal plastic surgery has many drawbacks with varied success rates. The gingival veneer prosthesis helps in achieving excellent aesthetics and patient satisfaction, showing its efficacy and simple treatment option in several clinical situations. A gingival veneer is a more advanced and complex treatment, this may be a helpful temporary solution. When the cost or risk of further advanced therapy may be greater than the desired advantages, some patients may decide to wear the veneer as a long-term choice.

**Keywords:** esthetics, gingival prosthesis, gingival recession, gingival veneers, periodontal disease.

## 1. Introduction

The displacement of the gingival margin apical to the cemento-enamel junction (CEJ) of a tooth or the platform of a dental implant is known as gingival recession or soft tissue recession. [1] Gingival recession can be caused by inflammation, periodontal disease, high frenal attachment, vigorous tooth brushing, improper flossing, and incorrect occlusal relationships. These may manifest as either localized or generalized gingival recession.

Miller's Classification of Gingival Recession:

**Class I:** Tooth position in the arch is typically well-aligned, Type of recession narrow or wide, gingival recession does not spread to the mucogingival junction, no bone or soft tissue loss interdentally, and 100% root closure can be expected.

**Class II:** Tooth position in the arch is typically well-aligned, Type of recession narrow or wide, gingival recession extending to the mucogingival junction, no bone or soft tissue loss interdentally, and 100% root closure is expected.

**Class III:** Gingival recession that spread to or beyond the

mucogingival junction, Tooth malposition, bone or soft tissue loss interdentally. Only partial root coverage can be expected.

**Class IV:** Severe tooth malposition, Gingival recession spread to or beyond the mucogingival junction, severe soft tissue, and bone loss in the interdental area. It is difficult to accomplish root coverage [2], [3].

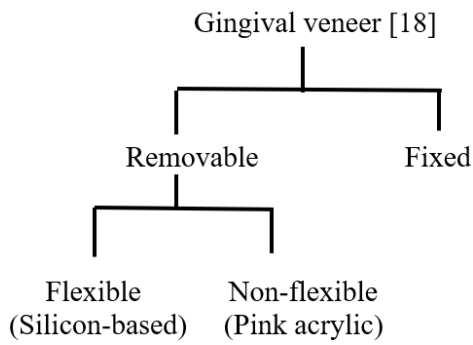
The interdental papilla is an important component of a pleasing smile, [4]-[7] and a lack of interdental papilla may result in a gingival black triangle (GBT). These spaces can also cause phonation difficulties and create space for plaque and food accumulation. [8] Kokich et al. found that black triangles greater than 3 mm less attractive. [9] A recent study assessing the perceptions of GBTs in terms of the number of visible black triangles and their severity in 80 randomly selected patients showed that the presence of GBTs was the third most disliked aesthetic concern after dental caries and crown margins. [10]

Various nonsurgical and surgical procedures have been tried and tested. The predictable outcome of these procedures depends on the type of gingival recession, amount of hard and soft tissue loss, etiology of recession, anatomical factors, and habits. Root coverage procedures like free gingival grafts, connective tissue grafts, and pedicle flaps have given positive outcomes but only in Millers Class I and Class II recession types. Class III and Class IV recession defects with significant bone loss are not ideal indications for these types of surgical procedures.

A gingival veneer (also known as a gingival veneer prosthesis) is a dental prosthesis that is worn on the labial side of the dental arch and aims to improve the aesthetics and mucogingival contour in areas where periodontal tissues are deficient. [11] Emslie introduced gingival veneers in 1955 as a means to cover up the unesthetic appearance of gingival recession in a patient who underwent a gingivectomy. [12]

The literature mentions various different gingival veneer types, [13]-[18], [19], [20] which are mainly categorized into:

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Different materials fabricating gingival prostheses include acrylic resins (Pink auto-cure and heat-cured acrylics), composite resins, porcelains, and thermoplastic acrylics, as well as silicone-based soft materials [21]-[24] matching the color of the gingiva. It can be fabricated in silicon or acrylic resin by conventional processing procedures.

**2. Case Selection**

Case selection is important, as it requires patients who are motivated in terms of oral hygiene, caries rate, and prosthesis maintenance. [25]

The gingival veneer may be appropriate in various prosthodontic, implant, and therapeutic clinical situations in addition to periodontal cases. The use of gingival veneers with implant-supported restorations is discussed in the literature. [26]-[28]

*A. Indications [29], [30]*

1. Poor esthetics characterized by exposed root surface, interdental black triangle, and/or crown margins
2. Dentine-root sensitivity
3. Impaired speech
4. Food accumulation seen in interdental spaces
5. Sialorrhea

*B. Contraindications [29],[30]*

1. Poor dental hygiene
2. High dental caries rate
3. Allergic to fabrication materials
4. Poor or unstable periodontal health
5. Smokers

**3. Steps in the Fabrication of Gingival Veneer Prosthesis**

- 1) An impression of the lingual surface of the mandibular teeth is recorded using silicone putty.
- 2) The interdental extensions of the impression were removed with a blade. The cut edges of the impression were smeared with Vaseline and it is resealed in the mouth. The impression of the labial surface was then recorded with the same material. Vaseline allowed the

separation of both halves of the impression. The lingual flange of the impression tray is modified for this purpose.

- 3) Labial half of the impression is refined with polyvinyl siloxane (light body) impression material. For this light body is loaded into a syringe and injected into the interdental areas and the putty impression is placed over it.
- 4) The labial and lingual portions of the impression were removed separately and reassembled outside and a cast is prepared in dental stone.
- 5) Modelling wax is placed on the gingival region of the cast and carefully carved and contoured to give a normal contour of the gingiva.
- 6) Mould is then prepared in a denture flask investing the wax pattern with the cast in dental plaster. The mould is allowed to cool down before packing it with silicone.
- 7) Silicone is taken on a clean glass slab and pigments were incorporated to match its colour with the gingiva of the patient.
- 8) After colour matching the silicone is packed in the mould and kept for curing.
- 9) After curing, the flask is opened and excess material was cut.

Gingival recession in the anterior region affects aesthetics. Periodontal surgery though the treatment of choice, is not always successful. In this case, the fabrication of gingival veneer using silicone material may be considered. Silicone veneer has the advantage of being both flexible and natural-looking. The mould used to make the veneer may be preserved and a number of veneers can be made using the same mould. The impression technique differs from that reported by Trakol Mekayarajananonth *et al.* [31]

Because acrylic resin was used for veneer preparation, undercuts were blocked out in their technique. Undercuts are carefully copied in the present technique so that they can serve as an effective retention device. The extensions of silicone material extending into the interdental spaces provide retention for the veneer, and saliva also functions as an adhesive to maintain the veneer in position. Silicone gingival veneers can be used in conjunction with implant-supported prostheses to provide proper lip support.

Parel *et al.* [32], [33] were the first to suggest this. The procedure described here is very simple and may be performed in any dental office.

*A. Advantages of Gingival Veneer [36]*

1. Excellent adaptation to fine details for a good prosthetic fit.
2. Biocompatible (free of methacrylates).
3. Odour and taste are both neutral.

Table 1

Gingival veneer maintenance and care [23], [34], [35]

Prosthesis cleaning	To remove any dirt or plaque, gently brush it off with a toothbrush or denture brush, soap, and denture toothpaste. Following the manufacturer's directions, you can use an antibacterial denture cleaner.
Prosthesis wearing	Wearing the prosthesis at night is not permitted. It needs to be handled gently and placed in water for the night.
Remember to consult a dentist	After the first week, recalls should be made in accordance with standard procedures.

4. Colour that is stable and attractive, with a chameleon effect.
5. User-friendly and cost-effective.

#### B. Disadvantages of Gingival Veneer

1. Difficulty in obtaining retention
2. Potential for fracture during cleaning procedures
3. Staining and plaque accumulation

### 4. Conclusion

Gingival recession caused due to periodontal disease frequently disturbs the patient's esthetics. Dental esthetics is based not only on the "white component" of the restoration but also on the "pink component." A clear understanding of the colour and form that is required is essential to fabricate a prosthesis and its acceptance by the patient. Gingival veneer prosthesis is a good treatment option for advanced soft tissue loss, achieving aesthetic results and patient satisfaction. It is a quick and economical alternative solution for root coverage as compared to surgical methods which might be unpredictable and take a long time for the completion of treatment.

### References

- [1] Pini Prato G. Mucogingival deformities. *Ann Periodontol* 1999 4: 98–101.
- [2] Kavitha J, Navarasu M, & Srikanth V. Treatment of gingival recession using coronally advanced flap-case report. *International Journal of Dental Science and Research*. 2014;2(1):1-4.
- [3] Ravipudi S, Appukkuttan D, Prakash PSG, Victor DJ. Gingival recession: short literature review on etiology, classifications and various treatment options. *Journal of Pharmaceutical Science and Research*. 2017;99(2): 215-20
- [4] Takei H, Yamada H, Hau T. Maxillary anterior aesthetics. Preservation of the inter-dental papillae. *Dent Clin North Am* 1989; 33: 263–273.
- [5] Burke S, Burch J, Tetz J. Incidence and size of pretreatment overlap and post-treatment gingival embrasure space between maxillary central incisors. *Am J Orthod Dentofacial Orthop* 1994; 105: 506–511.
- [6] Cho H S, Jang H S, Kim D K et al. The effect of interproximal distance between roots on the existence of interdental papillae according to the distance from the contact point to the alveolar crest. *J Periodontol* 2006; 77: 1651–1657.
- [7] Gonzalez M, Almeida A, Greggi S, Mondelli J, Moreno T. Interdental papillary house; a new concept and guide for clinicians. *Int J Periodontics Restorative Dent* 2011; 31: 6: e87–e93.
- [8] Takei H. The interdental space. *Dent Clin North Am* 1980; 24: 169–176.
- [9] Kokich V, Kiyak A, Shapiro P. Comparing the perception of dentists and lay people to altered dental aesthetics. *J Esthet Dent* 2005; 1: 311–324
- [10] Cunliffe J, Pretty I. Patient's ranking of interdental "black triangles" against other common aesthetic problems. *Eur J Prosthodont Restor Dent* 2009; 17: 177–181.
- [11] Ellis SGS, Sharma P, Harris IR. Case report: aesthetic management of a localised periodontal defect with a gingival veneer prosthesis. *Eur J Prosthodont Restor Dent* 2000;8(1):23–6.
- [12] Emslie RD. A case of advanced periodontitis complex. *Dental Practitioner* 1955;5:432–3.
- [13] Antony V, Khan R. Gingival Mask-Restoring the Lost Smile. *Journal of Dental and Medical Sciences*. 2013;5(3):20-2.
- [14] Patil S, Prabhu V, Danane NR. Gingival Veneer: Mask the Unesthetic. *Journal of Indian Society Periodontology*. 2011;15(3):284-7.
- [15] Zalkind M, Hochman N. Alternative Method of Conservative Esthetic Treatment for Gingival Recession. *Journal of Prosthetic Dentistry*. 1997;77(6):561-3.
- [16] Barzilay I, Irene T. Gingival Prostheses-A Review. *Journal of the Canadian Dental Association*. 2003;69(2):74-8.
- [17] Sinha A, Ravindra S, Bhat S. Gingival Veneer: Non-Esthetics to Esthetic Smile. *IOSR journal of dental and medical science*. 2014; 13(11):26-9.
- [18] Moldi A, Gala V, Patil V, Desai M, Giri G, Rathod A. Flexible Gingival Veneer: A Quick Cosmetic Solution to Root Coverage-A Case Report. *The Internet Journal of Dental Science*. 2014;13(1).
- [19] Alani A, Maglad A, Nohl F. The prosthetic management of gingival aesthetics. *British dental journal*. 2011;210(2):63-9.
- [20] Choudhari P, Pillai A, Zade R, Amirishetty R, Shetty S. Gingival Veneer: A Novel Technique of Masking Gingival Recession. *Journal of Clinical and Diagnostic Research: JCDR*. 2015;9(1):ZD12.
- [21] Barzilay I, Irene T. Gingival prostheses – A review. *J Can Dent Assoc* 2003;69:74-8.
- [22] Greene PR. The flexible gingival mask: An aesthetic solution in periodontal practice. *Br Dent J* 1998;184:536-40.
- [23] Priest GF, Lindke L. Gingival-colored porcelain for implant-supported prostheses in the aesthetic zone. *Pract Periodontics Aesthet Dent* 1998;10:1231-40.
- [24] Blair FM, Thomason JM, Smith DG. The flange prosthesis. *Dent Update* 1996;23:196-9.
- [25] Greene PR. The flexible gingival mask: an aesthetic solution in periodontal practice. *Br Dent J* 1998;184(11):536–40.
- [26] Brygider RM. Precision attachment-retained gingival veneers for fixed implant prosthesis. *J Prosthet Dent* 1991;65(1):118–22.
- [27] Parel S, Balshi TJ, Sullivan DY, Cardenas ER. Gingival augmentation for osseointegrated implant prosthesis. *J Prosthet Dent* 1986;56:208–11.
- [28] Morgan SM, Lima Verde MAR, Haddad MJ. A fixed-detachable implant-supported prosthesis retained with precision attachments. *J Prosthet Dent* 1993;70:438–42.
- [29] Ellis SGS, Sharma P, Harris IR. Case report: aesthetic management of a localised periodontal defect with a gingival veneer prosthesis. *Eur J Prosthodont Restor Dent* 2000;8(1):23–6.
- [30] Hickey B, Jauhar S. Gingival veneers. *Dent Update* 2009;36:422–8.
- [31] Trakol Mekayarajjanononth, Sudarat Kiat-amnuay, Numachai Sooksuntisakoonchai, Thomas j. Salinas. The functional and esthetic deficit replaced with an acrylic resin gingival veneer. *Quihtessence International Indian Edition* 2001; 1: 11-14
- [32] Parel S M, Balshi T J, Sullivan D Y, Cardenas E R. Gingival augmentation for osseointegrated implant prosthesis. *j Prosthet Dent* 1990; 56: 20S-211.
- [33] Robert M Brygider. Precision attachment-retained gingival veneers for fixed implant prosthesis. *j Prosthet Dent* 1991; 65: 11S-122.
- [34] Blair FM, Thomason JM, Smith DG. The flange prosthesis. *Dent Update* 1996;23(5):196–9.
- [35] Nayar S, Craik NW. Achieving predictable gingival stippling in labial flanges of gingival veneers and complete dentures. *J Prosthet Dent* 2007;97(2):118.
- [36] [http://www.voco.com/en/products/\\_products/ufi\\_gel\\_p/index.html](http://www.voco.com/en/products/_products/ufi_gel_p/index.html)