

INTRODUCTION

The demand for white, straight, and aesthetically pleasing teeth has grown exponentially in recent years. This trend has a significant impact not only on smile aesthetics, but also on the individual's self-esteem, social interactions, and overall quality of life.

Advances in dental materials and the new generation of photopolymerizer devices allow aesthetic treatments that are increasingly conservative, biocompatible and long-lasting. In this scenario, composite resins have proven to be a versatile material, with excellent biomechanical and optical properties. A clinical protocol can help dentists, especially in the description of critical steps in the manufacture of direct no-prep veneers, achieving better clinical success.

This work provides a clinical **step-by-step** for the making of direct no- prep veneers in composite resin, preserving the dental substrate.

CASE REPORT

Male patient, 44 years old, presented at the dental office, with concerns regarding the aesthetic aspect of both upper and lower teeth due to extensive restorations, endodontic treatments, alterations in color, shape and position of the teeth, and also reported insecurity when smiling (Fig. 1 A-C).



Figure 1 – A, B and C) Preoperative smile view. The patient is not satisfied with his restorations, tooth alignment, or overall esthetic appearance.

Anamnesis and physical examination did not reveal signs and symptoms of oral pathologies or temporomandibular disorders. Analysis of occlusion and mandibular excursive movements was executed to assess disocclusion guides.

The patient was informed about the risks, benefits and limitations inherent to the technique, aligning the patient's expectations with the treatment plan. All procedures are in accordance with ethical precepts and with the 1964 Helsinki declaration. Preservation of the healthy dental structure was prioritized, proposing only removal of old restorations. Initially, a gingivoplasty was performed to level the height and gingival zeniths (Fig. 2 A-C and Fig. 3 A-B).



Figure 2 – A, B and C) Smile view after gingivoplasty.

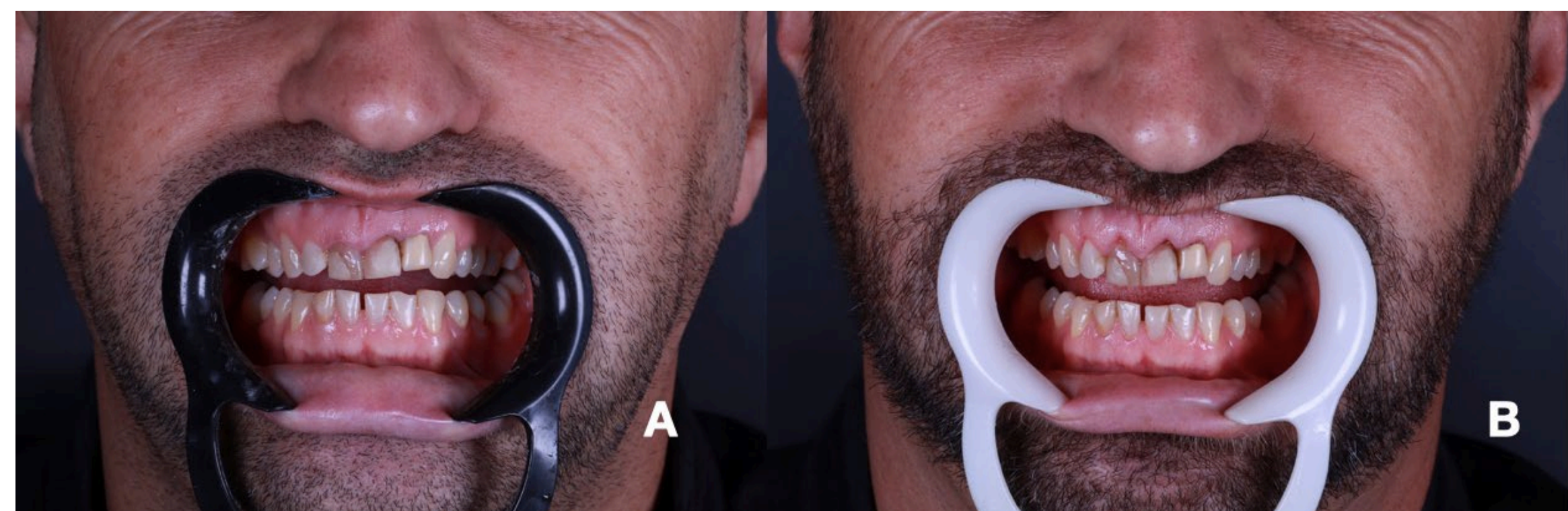


Figure 3 – Smile view- A) before and B) after gingivoplasty.

Subsequent to a 10-day recovery period, in the visit for the fabrication of upper facets, a mouth opener was placed, then old and unsatisfactory restorations were removed. The dentist must position himself behind the patient, who must be positioned horizontally.

Although slight facial rotation occurred during the preparation, and returns to the central position so that the professional can guarantee symmetry, particularly concerning the anterior teeth. Afterwards, prophylaxis was performed with Colgate Total 12 toothpaste (Colgate-Palmolive Company®, Brazil) with a robinson brush, washing thoroughly. Then, an abrasive metal strip was passed lightly on the interproximal contact areas, just enough so that the polyester strip could slide freely. The objective was not to perform a "slice", but rather to ensure that the entire interproximal surface is covered by a thin layer of composite, ending in zero, without invading the palate, thus allowing the proximal surfaces not to deviate from the buccal surface. The enamel was acid etched with 37% phosphoric acid for 30s on enamel and 10-15s on dentin. Afterwards, abundant washing was carried out for 60s and gentle drying with air jets. Next, a 1-step adhesive system (Master Bond, Biodinam®, Brazil) and light curing (Valo, Ultradent® power standard-1000mW/cm²) were applied for 20s.

Regressive technique was employed, and each teeth were made one by one, starting in the 2nd premolar up to the lateral incisors, teeth 11 and 21 must be performed together and finally, guaranteeing maximum aesthetics, contour and symmetry. Due to color change, all teeth were previously opacified with a white light-curing pigment (Epic, Biodinam®, Brazil). The composite (incisal nanohybrid - LUNA, SDI®, Australia) was applied with 1mm of thickness on the buccal surface and modeled, ending without excesses, about 0.5 short of the gingival margin. The composite in the gel phase is taken to the proximal faces with polyester strip, ensuring cervical adaptation, closing diastema and black spaces, making the primary anatomy (geometric shape and edges) and color transition. In the incisal and palatal areas, the desired height should be followed, according to aesthetic parameters, without a slight excess. Small grooves were made for the shape of mamelons in the incisal area. Photopolymerization for 20s. A small amount of blue tint (Epic azul, Biodinamica®, Brazil) was applied with a brush on the incisal edges. A second layer of the same composite was applied in the same way as described above.

After making the 10 upper teeth, following the anatomy of each tooth, for finishing and removal of excesses, black disks (Super Snap, Shofu, Brazil) were used in the incisal, buccal in 3 planes and in the proximal and incisal adjusting the mesial and distal embrasures, following the morphology of each dental element, and with the 4137 FF diamond tip (KG Sorensen®, Brazil), the palatal excesses were removed.

Cervical excesses were removed (3227 F diamond bur- KG Sorensen®, Brazil). The active tip allows the finishing of the composite close to the gingival sulcus, in a safe way. The inclination of more or less, 45° in relation to the buccal surface, allows the adjustment of the composite resin, in order to facilitate cleaning by the patient. On the buccal surface, vertical grooves are made, performing the secondary anatomy (lobules, developmental grooves and marginal ridges) with the diamond bur 4137 (KG Sorensen®, Brazil). Subsequently, the micro anatomy with discreet grooves performed horizontally (4137 FF- KG Sorensen®, Brazil) simulating the perikymata or surface texture (tertiary anatomy).

Veneers were polished with yellow and white rubber (Jiffy Polisher Spiral Polishing and Finishing System, Ultradent®, USA) with water spray. Then, the sealant was applied (Megaseal, Biodynamics®, Brazil), final photopolymerization for 20s, at Standard mode. Polishing was performed with a goat hair or cotton wheel brush (American Burss®, USA). Finally, glycerin was applied on all faces and the final polymerization on each face of each element, for 3s, at Xtra Power mode. All proximal parts were checked with dental floss and the occlusion with carbon paper.

Finally, increase in the DVO of about 1mm was performed with composite resin on the occlusal surfaces of the upper posterior teeth, and 10 veneers were made on the lower teeth, following the same protocol described above (Fig. 4 A-C and Fig. 5 A-B).

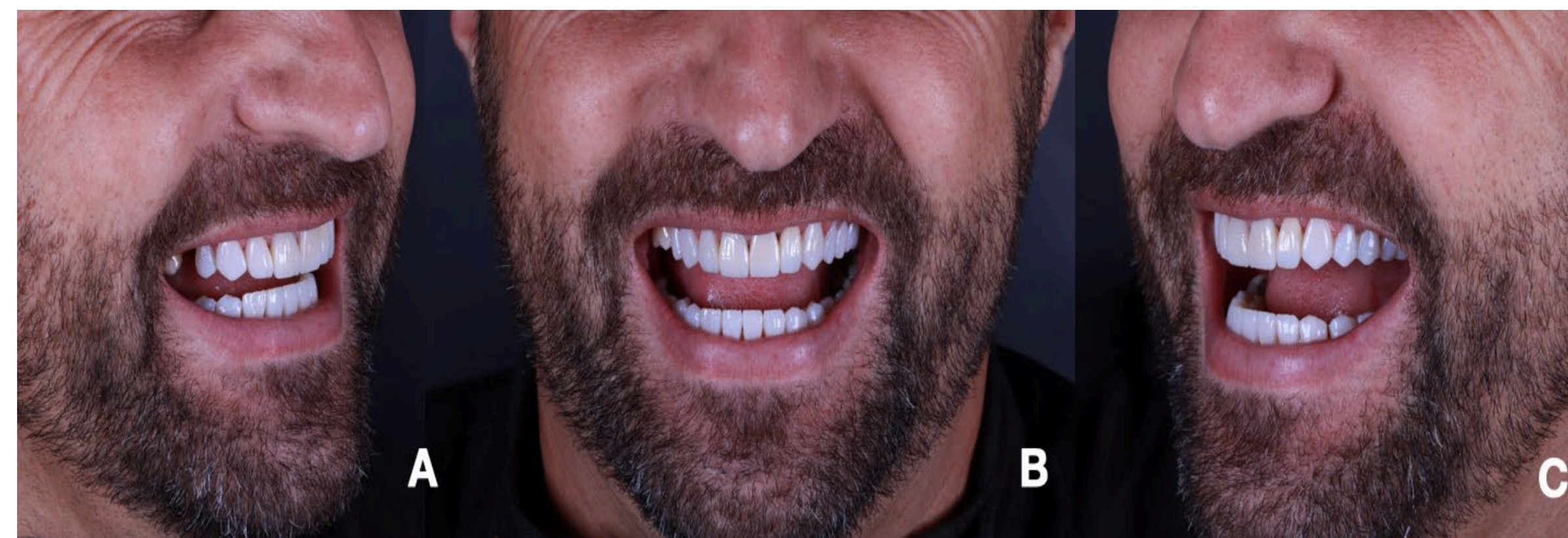


Figure 4 – A, B and C) After no-prep direct veneers composite, restoring shape, color and shine to the teeth.



Figure 5 – A) Smile view before the treatment and B) Final case after no-prep direct veneers composite.

CONCLUSION

In conclusion, no-prep direct veneers in composite resin offer a valuable and versatile option for patients seeking aesthetic improvements to smile. Conservative procedure, fewer clinical steps, durability, cost-effectiveness, and reversibility make **NO-PREP DIRECT COMPOSITE VENEER** an excellent choice among various aesthetic restorative procedures. Dentists should to consider these factors while recommending treatment options to their patients, taking into account individual needs and preferences.

REFERENCES

- Gresnigt M, Kalk W, Ozcan M. (2012). Randomized controlled split-mouth clinical trial of direct laminate veneers with two micro-hybrid resin composites. *Journal Of Dentistry*, 766-775.
- Mondelli J, Rizzante F, Valera F, Roperto R, Mondelli R, Furuse A. (2019). Assessment of conservative approach for restoration of extensively destroyed posterior teeth. *Journal Of Applied Oral Science*, 27-34.
- Reis G, Vilela A, Silva F, Borges M, Santos-Filho P, Menezes M. (2017). Minimally invasive approach in esthetic dentistry: composite resin versus ceramics veneers. *Bioscience Journal*, 238-246.
- Fahl N Jr, Ritter AV. Composite veneers: The direct-indirect technique revisited. (2021). *J Esthet Restor Dent*. Jan;33(1):7-19.
- Geštakovski D. The injectable composite resin technique: minimally invasive reconstruction of esthetics and function. Clinical case report with 2-year follow-up. (2019). *Quintessence Int*. 50(9):712-719.
- Mazzetti T, Collares K, Rodolfo B, da Rosa Rodolpho PA, van de Sande FH, Cenci MS. 10-year practice-based evaluation of ceramic and direct composite veneers. (2022). *Dent Mater*. May;38(5):898-906.