

**Porcelain Laminate Veneer for Midline Diastema Correction: A Case Report**

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**Abstract**

Restoring a patient's lost dental aesthetic look is one of the most important dental issues of the modern day. To do this, new therapy methods and instruments are constantly being introduced to the market. The objective of the case report is to provide an overview of the entire clinical process, including treatment planning and the cementation of lithium disilicate ceramic veneer. Indirect laminate veneer restorations may be a treatment option

for patients with esthetic problems of anterior teeth in cases similar to those reported here.

**Keywords:** conservative, anterior restoration, laminates, smile designing, porcelain laminate veneers

**Introduction**

A confident smile completes the picture of a person, who exudes confidence, which is an important aspect of their personality. In today's society, teeth appearance has grown increasingly important only from a cosmetic

standpoint. It has been found that using porcelain laminate veneers to address functional and/or aesthetic issues is a viable treatment option, particularly in the anterior aesthetic zone. In this case report, Porcelain laminate veneers were used to close the patient's diastema in the maxillary arch.

### **Case Report**

Patients frequently complain of maxillary midline diastema (MMD) as an aesthetic issue. A distance bigger than 0.5 mm between the proximal surfaces of the two central incisors is known as MMD<sup>1</sup>. It can be among the worst things about how one feels about their own dental appearance. Rather than for functional reasons, the primary motivations for treatment are psychological and aesthetic. This clinical report describes a lithium disilicate veneer-based conservative, minimally invasive method for closing a midline diastema.

A male patient aged 30 years, reported clinic with a chief complaint of spacing in the upper front teeth region. The patient was unhappy with his looks and appearance and refrained from smiling.

The patient was offered the choice of receiving both orthodontic and restorative care; however, he declined the idea of using orthodontic devices, so laminate veneers were chosen in their place. The patient's proper consent was obtained before the commencement of the treatment.

Wax-up is the main diagnostic procedure used to determine how the current and ideal tooth proportions differ from one another. A self-cured temporary composite material was used for provisionalization to gauge the eventual proportions of the suggested ceramic restorations. This allowed us to know how much tooth preparation this patient will require thanks to this stage.

Tooth preparations were done using mani depth marker dia burs (Mani Inc, Japan). The cervical borders of the

preparations were placed exactly at the gingiva's level (equigingival) by creating a cervical step without interfering with the gingival shape. For the preparation, the chamfer finish line was the recommended option. Care was taken to round off all internal line angles to lessen stress in the veneer borders. After performing the incisal overlap preparation, the teeth were polished. Using a double-step impression procedure, a final impression was made using polyvinyl siloxane as a wash impression following gingival retraction. After removing the temporary veneers, the teeth were cleaned and isolated. The veneer's color match, gingival extension, and fit quality were evaluated. Each of the laminates was placed individually to test alignment and adaptability. The veneers' intaglio surface was etched using 30% hydrofluoric gel, followed by rinsing and coating with a silane coupling agent. Following the manufacturer's directions, the prepared tooth was thoroughly isolated, etched with 37% orthophosphoric acid (Universal Etch), rinsed, and then the dentin bonding agent Prime & Bond NT was applied.

The porcelain laminate veneers were cemented using CalibraVeneer Aesthetic Resin Cement (Dentsply Sirona,) resin luting cement. Once all gross surplus had been removed, the luting resin was cured for 40 seconds each using a visible light activation device (Blue phase Ivoclar).

### **Discussion**

Laminate veneer is the most popular way of treating anterior teeth to improve appearance<sup>2</sup>. Making the right choice for the condition in which direct, indirect composite resin and indirect ceramic laminate veneers are chosen for the therapy's effectiveness requires careful diagnosis and treatment planning. First, a diagnostic mock-up was conducted, then an additive wax-up. The patient gets to see a physical representation

of the suggested ultimate restoration's dimensions and shape when the wax-up information is transferred to the mouth.

The field of cosmetic dentistry has advanced, providing dental professionals with new options for conservative and aesthetically pleasing restoration procedures. Treatment options for issues that arise in the high esthetic sensitivity zone are numerous. It has been demonstrated that using porcelain laminate veneers to address functional and/or aesthetic issues is a viable treatment option, particularly in the anterior esthetic zone. The methods and supplies used to create porcelain laminate veneers provide acceptable, dependable, and long-lasting results<sup>3</sup>.

In cosmetic dentistry, tooth veneering is a minimally invasive treatment that allows the dentist to balance ceramic and enamel while applying biomimetic materials<sup>4</sup>. The bulk of restorative techniques upset the natural teeth's enamel-dentin equilibrium. The application of porcelain laminate veneers, in contrast to these processes, provides an exceptional blend of hardness, resistance, and resilience<sup>5</sup>. The advantages of employing these restorations include their strong resistance against abrasion, stability, reduced chance of generating irritation or sensitivity, less cytotoxicity, and biological acceptability to the body due to their higher chemical stability. Additionally, they avoid extracting too many of the natural teeth and take a cautious stance<sup>6</sup>. The technique's clinical success can be attributed to meticulous attention to detail in a number of procedures, such as case planning with the appropriate indication, conservative tooth preparation, appropriate ceramic selection, appropriate cementation materials and techniques, and appropriate planning for the restoration's ongoing maintenance<sup>7</sup>.

## Conclusion

Long-term clinical success has been established using porcelain veneer technology. It is among the most effective treatment techniques available in contemporary dentistry. The conservative, minimally invasive porcelain laminate veneer approach described here is a very adaptable clinical process that yields outstanding cosmetic outcomes when followed closely during the clinical and laboratory stages.

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**Legends figures**

Figure 1: Pre-operative view



Figure 2: Wax mock-up



Figure 3: Teeth preparation



Figure 4: Try in on the cast



Figure 5: Veneer cementation



Figure 6: Post-operative view

