Adhesive cementation of partial veneers

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The desire for esthetically pleasing, minimally invasive and perfectly matching anterior restorations has existed since the beginning of dentistry. Only recently, however, has it become possible to translate this desire into reality. For many years, dentists were struggling with the opacity of PFM crowns before all-ceramic crowns became available. However, these ceramic materials were not resistant enough to be suitable for less invasive indications. Finally, ceramic veneers were launched. Veneer preparations are far less invasive than crown preparations - some preparation was nonetheless still needed. In addition, the veneers had to be designed in such a way that they covered the entire buccal surface.

However, given the advancements in ceramic technology and the luting composites available today, it is now possible to use partial veneers and to insert them without any difficulty. Partial veneers are ceramic veneers that only cover that part of the tooth that is missing, broken off or abraded. As a result, the tooth warrants only partial preparation or none at all.

This approach has become feasible for two reasons:
1. New ceramic materials are available. Dental technicians have now the option of layering any ceramic restoration. They can choose to use a fluorapatite ceramic material such as IPS e.max Ceram or to press the restoration from a highly translucent ingot such as the Opal or HT ingots of the IPS e.max Press range.
2. Luting composites have improved. A wide range of modern esthetic cements have become available. They are offered in several degrees of brightness to match them to the brightness of the natural teeth being restored with a veneer or partial veneer. In addition, these luting composites contain newly developed photoinitiators which improve their curing capabilities and long-term shade-stability.

The ceramic material selected for a restoration depends on the size of the defect and/or the optical effects and stability that the dentist intends to achieve. The layering technique is likely to be the first choice for teeth featuring multiple optical effects. If large partial veneers that do not warrant special effects but include the entire incisal edge are required, a high-strength ceramic such as lithium disilicate is a likely choice.

When it comes to selecting a luting material for veneers and partial restorations, Variolink Veneer from Ivoclar Vivadent is bound to be the first choice for many dentists. Not long ago, the successor product, Variolink Esthetic, has been launched. This luting material is available in a wide range of shades to match the natural teeth being restored.

Fig. 1: Preoperative situation
Fig. 2: Close-up of the preoperative situation
Fig. 3: Prepared teeth
Fig. 4: Selecting the shade of the luting composite: Variolink Esthetic LC in shade “Warm”
Fig. 5: Try-in of both partial veneers
Fig. 6: Before seating the veneers: adjacent teeth covered with Teflon tape and separation with a Mylar strip
Fig. 7: Enamel etching for 20 seconds
Fig. 8: Followed by dentin etching for 20 seconds
Fig. 9: Rinsing with water spray
Fig. 10: Applying Adhese Universal bonding agent
Clinical case
A 46-year-old male patient visited our practice with the request to have his 20-year-old Mirage partial veneer replaced. He was convinced that the veneer needed replacing because of the wear of the adjacent central incisor (Figs. 1 and 2). It was decided to use partial veneers to improve the situation. Figure 3 shows the preparation performed on the teeth. Once we received the veneers (IPS e.max Press HT) from the lab, we used the Variolink Esthetic Try-In pastes to determine a matching cement shade for the final cementation. In this specific case, we achieved the best result with the shade “Warm” (Figs 4 and 5). Next, the neighboring teeth were covered with Teflon tape. Then, a Mylar strip was placed between the teeth (Fig. 6). The enamel was etched for 20 seconds and the dentin for 10 seconds (Figs. 7 and 8). Variolink Universal was rubbed in and allowed to react for 10 seconds (Figs. 10 and 11). Variolink Esthetic LC “Warm” was applied to the partial veneers before they were seated (Figs 12 and 13). Excess cement was carefully removed with a brush before light curing (Fig. 14). The veneers were first illuminated simultaneously from both sides for five seconds using two Bluephase Style lights (Fig. 15). To save time, final curing was also conducted with the help of two Bluephase Style lights whilst cooling the teeth with water spray (Fig. 16). After light curing, any remaining excess water spray, as shown in Fig. 16. After light curing, any remaining excess cement was removed using a scalpel (blade no. 12) (Fig. 17). The final result of cementation with the help of try-in pastes in the corresponding effect shades. The composite comprises the newly patented light initiator Ivocerin, which provides the cement with long-term shade stability. In addition, Variolink Esthetic is easy to use due to its flexible situational consistency and easy clean-up characteristics.

The clinical report below describes the insertion of two partial veneers seated with Variolink Esthetic LC in the shade “Warm”.

The five shades of the product are based on long-term shade stability of Vita Ceramica (Vita Zahnfabrik, Bad Säckingen, Germany) and are provided for the treatment of a root-canal foundations of endodontics to the treatment of a root-canal. In 2007, he published his doctorate thesis in 2008 titled “Osseointegration of zirconia implants, an in vivo study” and got his doctorate degree in 2010 from the University of Düsseldorf, Germany.

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