

Temporary cementation of the provisional and the permanent restoration

DR. MED. DENT. M. HANSEN, JULY 2009

The existing crown of a female patient with periodontally healthy dentition was to be replaced. Following extensive consultation, the patient decided on a zirconia crown.

This case history describes the use of TempoSIL 2 for temporary cementation of the provisional restoration as well as temporary cementation of the permanent restoration.

Fabrication of a good quality provisional restoration is an aspect of crown and bridge prosthetics that should not be underestimated. The choice of temporary cement and fabrication of an accurately fitting provisional restoration are essential for attaining an optimal clinical result. The provisional restoration is intended to

protect the prepared tooth against irritation, retain the teeth in a stable position, maintain the aesthetics as well as ensure good hygiene. Once fitted, the provisional restoration should also enable the patient to chew with confidence during the interim period.

To ensure that the pulp is reliably protected against irritation not only requires an accurately fitting restoration but also insoluble cement, which also produces an airtight seal. The manufacturer Coltène/Whaledent put TempoSIL, the first temporary A-silicone cement, on the market in 2005. The newly developed and improved version TempoSIL 2 is now available (Fig. 1). TempoSIL 2 has impressive features, such as improved adhesion on different surfaces, easy application, short

curing time and two shades (White and Dentin).

A tooth-coloured provisional restoration was fabricated for temporary treatment using CoolTemp Natural (Fig. 2). The shade White was considered the best option for temporary cementation to ensure reliable masking, as the prepared tooth had different shades (Fig. 3). The TempoSIL 2 automix syringe was prepared by the dental assistant. To attain an optimal mixture from the 5 ml automix syringe, it is important to ensure that the base and catalyst extrude uniformly from the outlet (Fig. 4). The mixing tip can be attached once the base and catalyst are extruding uniformly. The assistant then carefully filled the temporary crown to 2/3 full (Fig. 5). Tip: the material is easily spread on



Fig. 1

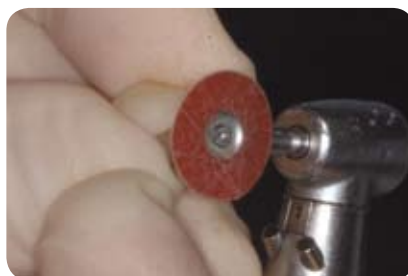


Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6

the walls up to the crown margin using the Oral Tip. The highly thixotropic material begins to flow easily when pressure is applied during the working time, so that the temporary crown can be fitted in position without any great resistance. The excess around the circumference of the margin (Fig. 6) guarantees that the prepared tooth is completely covered with cement, ensuring that the provisional restoration is securely retained and impervious. The excess can be quickly, easily and safely removed after only 2 minutes intraoral setting time using a spatula, scaler or tweezers. Generally, the excess can simply be gripped with tweezers buccally or orally and pulled away (Fig. 7). In situ the provisional restoration helped maintain the function (Fig. 8) of the whole masticatory apparatus. The white, opaque shade of TempoSIL 2 made the temporary crown appear very homogeneous, despite the different shades of the core. After the dental technician had fabricated the permanent zirconia crown in the lab-

oratory, the provisional restoration was easily removed from the prepared tooth at the second appointment. Usually the material still adheres to the provisional restoration, so that time-consuming removal of cement residue on the prepared and possibly sensitive tooth is no longer required.

In certain clinical situations the only option may be to cement permanent restorations temporarily. In this case the restoration was fitted temporarily for several days to allow the patient to assess the aesthetics and function more accurately. TempoSIL 2 Dentin is ideal for this stage (Fig. 9), as the shade match with the subsequent permanent cement can be assessed more accurately. The crown is held in position intraorally for the short curing time (Fig. 10). The excess was also easily removed in large segments using a scaler (Fig. 11 + 12). The crown was now able to be worn temporarily for several days without any problem (Fig. 13). There are

no concerns with regard to discoloration, as TempoSIL 2 completely fills the cavities between the restoration and tooth, ensuring excellent impermeability. Studies at the University of Geneva, Switzerland and the Department of Prosthodontics, Mumbai, India, confirm these facts¹. Cured TempoSIL 2 is also unaffected by any type of intraoral influence, e.g. medication or mouthwash containing alcohol. Another positive aspect is that TempoSIL 2 contains zinc oxide. It is a well-known fact that zinc oxide is attributed with having an antiseptic effect.

If the crown is to be permanently fitted at a later date, the temporary cement can be easily removed from the inside of the crown (Fig. 14 + 15) which is then cleaned by wiping it briefly with alcohol.

In summary, TempoSIL 2 is an innovation in temporary luting cements. The improved bond strength of TempoSIL 2 is also a particularly noticeable feature



Fig. 7



Fig. 8



Fig. 9



Fig. 10



Fig. 11



Fig. 12

for dentists who have used TempoSIL for many years. The efficiency and time-saving that can be attained with TempoSIL 2 will greatly ease the practice routine for temporary luting.

CONTACT

Dr. med. dent. M. Hansen
Vordere Kirchstrasse 2
9444 Diepoldsau / Switzerland
phone: +41 71 733 26 66
e-mail: info@hansen.tv

DENTAL LABOR

Chinook Dental Labor
Paul Lenherr
Stadel 9
9496 Balzers / Liechtenstein
Telefon: +41 423 233 31 52



Fig. 13

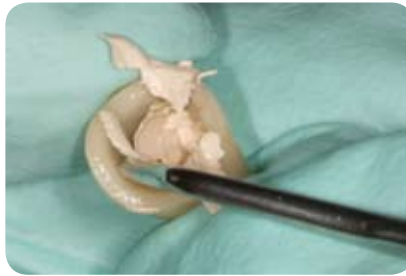


Fig. 14



Fig. 15

Reference

- ¹ Research of Prof. Krejci and the University of Geneva, Switzerland and of Subhash Bandgar, SJ Nagda Department of Prosthodontics, Mumbai, India: Evaluation of marginal microleakage of three zinc-oxide-based non-eugenol temporary luting agents: an in vitro study