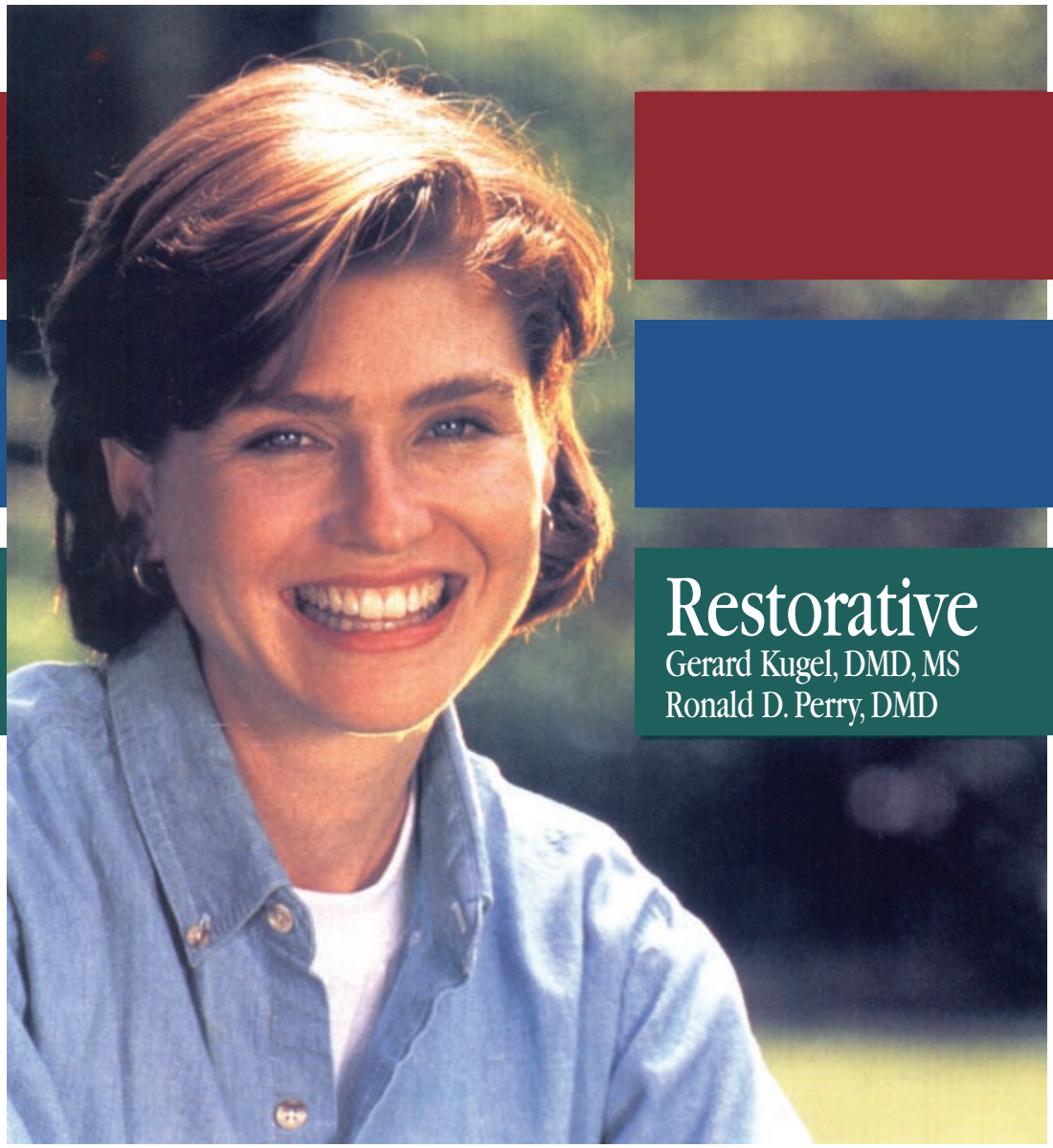
DIALOGUES

IN *Esthetic* DENTISTRY™



Restorative

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Restorative

User-Friendly Provisionals

The most critical, but often overlooked, aspect of prosthetics is the proper fabrication of provisional restorations. The provisional, which should be an accurate representation of the final restorations, can serve many important purposes, from protecting the teeth and soft tissues to providing both function and esthetics. When used properly, provisional restorations provide:

- esthetics
- function
- maintenance of tooth position
- pulpal protection
- evaluation of occlusion
- tissue healing
- diagnosis of questionable teeth.

If the fabrication of the provisional is not given the appropriate priority within the treatment plan, the results can lead to unhealthy gingival tissue, compromised esthetics and occlusion, and difficult and time-consuming placement of the final restoration. The notion that a provisional is "only a temporary" must be dispelled in the minds of today's dentists. Provisionals serve the needs of pulpal protection, phonetics, esthetics, diagnostic aids, space maintenance, occlusion, and periodontal health.

The techniques and types of provisionals vary significantly. They include prefabricated crowns, such as stainless steel and polycarbonate shells, and laboratory-fabricated chairside provisionals. The standard, and the most frequently used materials, have been self-cured acrylics, including methyl, ethyl, vinyl ethyl, and isobutyl methacrylate resins. Over the years, the maor advantages of these materials have been their low cost, relative strength, and ease of repair. Their disadvantages include high shrinkage, high heat during polymerization, poor esthetics, and unpleasant odor and taste. In addition, these self-cured acrylics were not always user-friendly and often resulted in inconsistent mixes, increased time, and waste.

➤ ***Figure 1***—*Preoperative view of defective resin-bonded bridge on teeth Nos. 8 and 10.*

➤ ***Figure 2***—*Preoperative lingual view of defective resin-bonded bridge.*

➤ ***Figure 3***—*Mounted study cast models in centric relations.*

➤ ***Figure 4***—*Shoulder preparations of teeth Nos. 8 and 10.*

The most critical, but often overlooked, aspect of prosthetics is the proper fabrication of provisional restorations.

Recently, a plethora of new provisional restoratives has been introduced to the dental market, including light-cured acrylics, auto-cured composite resins, dual-cured composite resins, and thermoplastic composites. These materials all have the same goal–making provisionals user-friendly. The advantages of these restoratives include controlled set, increased hardness and strength, color stability, low shrinkage, excellent esthetics, less chair time, and no taste or odor. However, these advantages have resulted in some disadvantages, including in-

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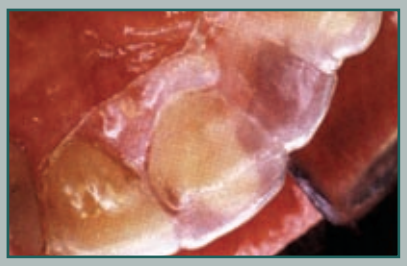
[a] Regent Labs, Inc, Deerfield Beach, Fl 33442
[b] Sterngold-Attachments, Attleboro, MA 02703

➤ ***Figure 5****—Trial fit of clear stent over prepared teeth for proper tooth reduction.*



➤ ***Figure 6****—Lingual view of trial fit of clear stent over the prepared teeth.*

➤ ***Figure 7****—Filling stent with the InstaTemp™ Provisional Crown & Bridge material.*

➤ ***Figure 8****—Final three-unit provisional restoration illustrating dental margin fabrication.*

creased cost and difficult removal of excess material.

A new automix provisional material, InstaTemp™ Provisional Crown & Bridge[a], is a two-component material based on bis-acryl composites that responds to the characteristics most important to dentists: ease of use, ease of fabrication, and ease of placement. In addition to the previously mentioned advantages of composite-based materials, InstaTemp™ Provisional Crown & Bridge provides ease of fabrication, contour, and polishability, placing it among the best of this class of provisional materials.

Clinical Procedure

The patient, a 41-year-old man, presented with an ill-fitting 10-year old resin-bonded bridge that needed to be replaced. The existing bridge had been repaired many times and had recurrent decay underneath (Figures 1 and 2). After the proper diagnosis, treatment plan, and mounting of the study models in centric relation (Figure 3), clinical treatment began. These study models were then used for fabrication of a clear vacuum-form stent. The teeth were moderately prepared (1-mm reduction), and the stent was seated onto the model to create a custom-fabricated provisional shell using the InstaTemp™ Provisional Crown & Bridge automix material. To accelerate delivery of the finished provisional, the occlusal dynamics were addressed on the mounted study models during the fabrication of the custom provisional.

Shoulder preparations were made using standard crown-and-bridge procedures (Figure 4). To confirm reduction and proper seating, the prefabricated shell was placed over the prepared teeth (Figures 5 and 6). The provisional shell was relined with additional automix material, which provided accurate reproduction and seal of the prepared teeth (Figure 7). A major advantage of this material is its ability to reline the provisional and adequately adhere to the cured automix material, making it useful when repairing demaged provisionals.

InstaTemp™ Provisional Crown & Bridge provides ease of fabrication, contour, and polishability, placing it among the best of this class of provisional materials.

To ensure adequate tooth reduction and shoulder preparation, the provisional was taken out of the patient's mouth and evaluated (Figure 8). No additional preparation was required. The provisional was placed back in the mouth and checked for appropriate margins, contacts, and contours. If necessary, additional automix material can be added.

If shade modification is required, it can be accomplished by reducing the facial surface of the provisional restorations by 0.5 mm using a medium coarse diamond. No bonding agent is necessary in the repair or modification of the provisional, making it easier for the operator. After shade selection, a composite material can be applied to the rough surface and sculpted to obtain the desired esthetics. It is then light-cured for 40 seconds and recontoured and polished. Polishing is achieved using a composite polishing kit or rag wheel with wet pumice.

After the provisional was completed and previous criteria accomplished, a final impression was taken using the Sterngold Restorative System Quick Mono monophase impression material[a]. Because this material is very thixotropic, it can flow under slight pressure into the smallest gingival crevices to reproduce the accurate details of the preparations and the prepared margins of the teeth. The impression material can be directly applied into the impression tray, giving a homogeneous mix with no voids. In addition, it can be easily removed from the mouth, making it convenient for patients and dentists.

From the final crown impression, the provisional was ready to be temporarily cemented into the patient's mouth. The provisional cement used for this step was Sterngold Restorative System Temporary Cement Noneugenol[a], an automix delivery system that allows for a consistent mix each time it is used (Figure 9). This cement will not stick to a polished surface, which allows for easier clean-up of excess material. A mixing cannula tip was placed into the provisional restora-

[a] Sterngold-Attachments, Attleboro, MA 02703

tions, giving the precise amount of cement needed. To enhance the luster of the polished provisional, a thin layer of light-cured Varnish LC[a] was brushed onto the surface and light-cured for 10 seconds (Figure 10). Care must be taken not to place excessive amounts of the material interproximally, which could result in tight or strong contacts that would require adjustment to fit.

After final curing of the temporary cement, the occlusion was checked one final time to be certain of proper occlusal harmony within the provisional restoration. This results in a smooth and well-sealed provisional restoration that eliminates thermal sensitivity and maintains proper tooth position for the final restoration.

The patient was given postoperative instructions, including what to expect while wearing the provisional. The follow issues should be discussed with the patient:

- possible sensitivity
- avoiding sticky foods
- maintaining oral hygiene
- accidental dislodgment.

➤ ***Figure 9****—Placement of Sterngold Restorative System Temporary Cement in the final provisional.*

➤ ***Figure 10****—Final inserted, polished, and cleaned provisional restoration coated with Varnish LC.*

Provisional restorations allow us to evaluate esthetics, pulpal status, periodontal responses, occlusion, and phonetics.

Conclusion

A clinical and functional provisional restoration serves many important purposes. It protects the teeth and soft tissues while the definitive restorations are being fabricated in the lab and serves as a dignostic aid. Provisionals allow us to evaluate esthetics, pulpal status, periodontal responses, occlusion, and phonetics. They also prevent marginal leakage and postoperative sensitivity in the patient.

The Sterngold Restorative System provisional crown-and-bridge material achieves esthetic viability and provides proper functioning, as well as allowing for quick and easy fabrication of consistent provisionals in a variety of circumstances. Final restoration success requires the proper use of provisional restorative materials because the techniques used to fabricate the provisional are the same that will ultimately be used to manufacture the final restoration. ■

Selected Reading

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THE DIALOGUE

The loss of natural teeth and the stigma of wearing a denture can be very stressful.

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An overdenture allows the patient to retain teeth that would not be able to support a conventional prosthesis.

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