Crown or same-day onlay?

Take a look at the advantages of indirect laboratory-processed composite resin posterior restorations

By Lorin Berland, FAAC D

“The trend in dentistry today is clearly toward more esthetic and less invasive. Indirect resin and ceramic inlays and onlays are not only compatible with this trend, but fulfill very nicely the restorative void between fillings & crowns,” wrote Ronald D. Jackson, DDS, FAGD, FAACD (Cosmetic Tribune, Dec. 2008).

Regarding durability, esthetic inlays & onlays are not new any more. They have a track record and it is good. With today’s materials, longevity is mainly a matter of diagnosis, correct treatment planning and proper execution of technique.

The problem with replacing old amalgams with tooth-colored composites is they are difficult, inconsistent and unpredictable.

Yet, the warranty on these 50-, 40-, 50-year-old silver fillings is running out. We have to remember that amalgam technology is more than 150 years old. At that time, people lost their teeth a lot earlier and died a lot earlier, too. Now, however, we have a large segment of the population that is more older than 50 & growing & they want to keep their teeth feeling good and looking good.

Let’s think like our patients. Our patients want to replace these old amalgams, but they want to do it conservatively, consistently, efficiently, predictably and economically — and they want to do it in one visit.

So, what are the advantages of indirect laboratory-processed composite resin posterior restorations?

Restorations fabricated in this manner look better, under go less shrinkage, help restore the strength of the tooth, have minimal porosity and excellent marginal integrity, and they have smoother surfaces that are kinder to the gums and result in less plaque accumulation. They are very durable and can be done in one visit.

Patients appreciate avoiding the inconvenient, uncomfortable and expensive second appointment. No second appointment means no temporaries, no emergency visits, & best of all, healthy tooth structure is preserved.

By contrast, replacing amalgam restorations with direct posterior composites, especially ones involving an interproximal surface, are difficult for the patient as well as the dentist.

For many reasons, these direct composite replacements frequently prove to be inadequate, especially over time.

The inherent problems of isolation, the large bulk of composite required and the layered curing of the composite, as well as the effects of shrinkage, all affect contacts, occlusion, margins & postoperative tooth sensitivity.

Gold will always be an excellent restoration for posterior.
Fig. 1: #30 pre-op. Fig. 2: FenderWedge in place. Fig. 5: Caries detector. Fig. 4: Prep with liner.

Fig. 3: Identical hydrocolloid impression. Fig. 6: Basting the poured impression. Fig. 7: Silicone model. Fig. 8: Model with undercuts waxed.

Fig. 9: Finishing the onlay. Fig. 10: Onlay finished and polished. Fig. 11: Expasyl prior to seat. Fig. 12: Expasyl and FenderMate prior to seat.

Fig. 13: Adapting FenderMate. Fig. 14: Seating onlay. Fig. 15: Final onlay.

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teeth, but due to appearance, mass and an increasing price, it becomes more unacceptable in today's image-conscious society.

The prep
This patient came in with a dental emergency. The filling had fallen out of his broken, lower right molar the day before he was going overseas for three weeks on business. He wanted to see the involved tooth, prepped tooth prior to inserting the onlay into the tooth.

The FenderMate (Directa Dental) was dispensed into the prepped tooth prior to inserting the onlay into the tooth. The FenderMate (Directa) was removed and the onlay was further seated using a condenser with gentle pressure.

Complete seating was facilitated using the contra-angle承包/condeniser (Fig. 14).

An explorer is helpful in removing excess flowable before curing.

The restoration was cured from all angles, starting at the interproximal gingival floors where leakage is most likely to occur.

Occlusal flash and excess flowable composite was ‘buf-fed’ with a short flame carbide while the interproximal margin were adjusted with bullet or needle carbides.

A Bard Parker #12 scalpel was used to remove interproximal cement.

Once the proper occlusion was established, a diamond-impregnated point and/or cup was used to polish the restorations (Fig. 15).

Conclusion
There are certainly clear advantages for both the patient and the dentist when doing indirect composite resin restorations. These restorations have helped me save my patients’ teeth, time and money. Over the last 20 years, I have tweaked, updated and modified these restorations in terms of techniques, materials and equipment.

These restorations not only save time and conserve healthy tooth structure, they are a valuable service to provide to your patients.

Wherever you practice, however you practice, these restorations are durable, esthetic, economical and very much appreciated.