Efficiencies in the Fabrication of Long-Term Provisional Crowns

Clinical Applications and Techniques to Provide Excellent Outcomes for Patients

by Dr. Gary Radz

Quickly Creating an Excellent Core Build-Up

Fabricating a crown can be very time-intensive, and it's inevitable that a solid substructure will be needed for the final restoration. Because this procedure is virtually unavoidable in almost any dental practice, I've developed an efficient way to do an easy, reliable core build-up.

Once the old restoration and decay is removed, use a universal, disposable, toffermeyer-like matrix called an Omni-Matrix™ (Ultradent). Place the matrix on the prepared tooth and then start the core buildup with LuxaCore Z Dual, an injectable dual curing composite resin material. Simply pull the trigger and squeeze.

Light cure it for 20 seconds, remove the matrix, and then light cure for another 10 seconds. This is an extremely short curing time for something that's so deep.

LuxaCore Z Dual is flowable in consistency so it quickly fills the matrix, replacing the missing tooth structure. And because it's dual cure in nature, I can immediately start my prep while the very deepest part of that material is curing. I've now quickly and efficiently restored the missing tooth structure with something that is strong, stable and cuts like natural dentin.

Highly Stable, Accurate and Affordable Pre-op Impressions

For a long-term temporary crown, I want a highly accurate and stable pre-op impression that will be a matrix for the final crown that my patient can wear for months or even years.

For the initial impression, use a triple tray with StatusBlue to capture the opposing arch as well as the tooth that the impression is needed for. StatusBlue, as an alginate substitute, sets up as fast as alginate and is an inexpensive poly-vinyl impression material.

Take the initial impression, remove, and rinse.

I then take a second impression to capture the finer details. For even more accuracy, re-align it on the arch with Honigum Pro Quad Fast , a fast-setting light body impression material.

Place back in the mouth, and it will set in about 2-2 ½minutes. Once competed and removed, I have an excellent matrix to make a highly accurate temporary restoration.

Long-term Provisional Crowns

Compared to sending your case to a lab, working chairside saves time and money, and produces more accurate long-term provisional crowns.

In the past, we've been compromised by temporary materials that are simply not designed to be worn long-term. The material for long-term provisional crowns that can handle wear and tear over time, even against porcelain, is LuxaCrown.

A common case is when a patient needs a crown, but they simply don't have the money. LuxaCrown is designed to last 1-5 years so I can provide something that will protect and restore the tooth for a significant amount of time, allowing patients to establish the means to afford the porcelain crown.

LuxaCrown addresses the finer marginal areas, forming a reliable seal that avoids bacterial leakage. LuxaCrown is a self-curing injectable material, that when placed in the matrix, sets on the tooth much like a very high-quality impression. Once removed from the matrix, trim, polish, and seat for a final restoration where margins are distinctly captured and defined.

If it's staying on for a year or more, I'll cement with glass ionomer. If it's needed only a couple of months, I'll use a clear temporary cement like the TempoCem®ID for anteriors, or the opaque TempoCem for posteriors.

I've actually trained my dental assistants on this technique and they're also creating excellent long-term provisional crowns.