

November 2023

A PROVEN WORKFLOW FOR TRY-IN & CEMENTATION OF LITHIUM DISILICATE RESTORATIONS



INTRODUCTION

Increase Your Chances of Success

Restoring a patient's smile through the use of indirect restorations is a multi-step process. You do your prep, design the restoration and put the patient in a temporary while you wait for your lab to make the restoration. Once the patient comes back for the final delivery, how you handle the try-in and cementation appointment is vitally important.

The consistent and proven workflow presented here will enable you to work faster and better at this final appointment. When you and your dental assistant know exactly what is going to happen and the order in which things need to be done, your chances of a successful outcome are much greater.



“ Having a consistent and proven workflow enables you to work faster and better. ”

STEP 1: REMOVE THE TEMPORARIES

The first step in this proven workflow is to get the temporaries off. In most cases you'll anesthetize the patient before you get started. If you are working with veneers, you may be able to simply remove the temporary veneers with a sickle scaler. If not, you'll need to section them with a handpiece and bur, being very careful not to touch the prep. For crowns and bridges, you can gently tap them off using a crown and bridge remover or remove them with the appropriate pliers or forceps.



STEP 2: CLEAN THE TOOTH SURFACE

Once you remove the temporary you need to clean the prepared tooth to address any contamination and ensure that no temporary material remains on the tooth surface.

Traditionally the tooth surface has been cleaned by mixing plain pumice and water into a slurry, placing this slurry into a prophy cup and then applying this to the tooth. A better option is to replace the water in this slurry with a glutaraldehyde-free desensitizer that contains 4% chlorhexidine. With this approach you can simultaneously clean, disinfect and desensitize the preparation, in a way that is very kind to the patient's soft tissue.



Clean the tooth surface with a mixture of plain pumice and a glutaraldehyde-free desensitizer that contains 4% chlorhexidine.



STEP 3: ADDRESS SOFT TISSUE ISSUES & CONTROL FLUID

Quite often when you remove the temporaries you find that the soft tissue does not look the way you'd like it to. The patient's hygiene around the temporaries may have been poor. The soft tissue might be inflamed, irritated or a bloody mess. Or perhaps a little bit of excess cement may have gotten into the sulcus during your cleaning process, resulting in some irritated tissue there.

Whatever the situation, before you move ahead to the try-in you must control any hemorrhage or sulcus or fluid leakage that's happening around the preparation. There are a number of different products you can use to do this...

Hemostatic Solutions

Hemostatic solutions work well when you're just dealing with a minor bit of bleeding. Rub on the solution, rinse and dry. When working with lithium disilicate, it is important that you choose a hemostatic solution that is aluminum chloride-based and *avoid* the ferric-based products. This is because the iron in the ferric-based products can oxidize over time and create a dark black stain on the tooth surface that will show through the lithium disilicate restoration.

Hemostatic Pastes

Hemostatic pastes are putty-type mixtures that are infused with aluminum chloride. You inject these pastes around the sulcus, where the aluminum chloride has a hemostatic effect. Follow the product's instructions regarding how long to leave the paste on, and then clean it off of the preparation before continuing.



Diode Laser

As a last resort, if you cannot get the bleeding under control with hemostatic solution or paste, you can use your diode laser to cauterize the spot where the hemorrhage is coming from. Be sure to turn the energy down to the bare minimum, use a very light touch and be careful not to remove any of the soft tissue.

Soft tissue issues / fluids can be controlled with:

- Hemostatic Solutions
- Hemostatic Pastes
- Diode Laser

What about Retraction Cord?

If the hemostatic solution doesn't do the trick, retraction cord used to be the next line of defense. While retraction cord has the potential to stop bleeding, the mechanical process of placing a cord around irritated tissue that's inflamed and bleeding may actually cause more bleeding. Today's hemostatic paste materials are a better choice.



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STEP 4: TRY IN THE RESTORATION

Use a Color-Matching Try-In Paste

Since lithium disilicate is somewhat translucent, it is important to do the try-in using a try-in paste that is the same color as the cement you will be using, so you can preview the final restoration's aesthetics. To make it easy to do this, be sure to choose a cement that comes with color-matching try-in paste, such as BISCO's Choice 2 Veneer Cement.

Carefully Evaluate the Restoration

In addition to looking at the aesthetics of the shape and color, you also want to evaluate the "technical" aspects of things. How does it fit at the margins? How does it fit on the lingual and buccal side? And so forth.



Once you are happy with the restoration, hand the patient a mirror and let them know that this is what the restoration will look like when you get done. Do they see any changes they'd want to make, or are they happy with it as is? This step is especially important for veneers. Have the patient sign off that they had a chance to look at the restoration, they're happy with it and they give their approval for you to cement it into place.

Re-Clean the Preparation

Remove the restoration from the patient's mouth and repeat step 2 to remove all of the try-in paste and re-clean the preparation. If fluids are once again a problem, repeat step 3 as well.



Use a try-in paste that is the same color as the cement you will be using.



STEP 5: PREPARE THE CERAMIC

Clean and Decontaminate the Ceramic

Now it's time to get the ceramic ready to be cemented. Set the restoration on the counter and use an air water spray to aggressively rinse off the try-in paste.

Next, decontaminate the internal aspect of the restoration. There are three main options for how to accomplish this:

There are three main options for decontaminating the internal aspect of the restoration:

1. Phosphoric etch
2. Isopropyl alcohol
3. Special cleaning products

- 1 Phosphoric etch** – Your goal here is not to etch the ceramic, as that should have happened at the lab. Instead, use the phosphoric etch as a detergent to clean out any contamination picked up during try-in.
- 2 Isopropyl alcohol** – Put the restoration in isopropyl alcohol and then put it all in your ultrasonic for 90 seconds.
- 3 Special cleaning products** – This includes BISCO's ZirClean. Although it is designed for cleaning zirconia, it does a great job on lithium disilicate as well. Put it on the internal aspect of the porcelain, leave it there for 20 seconds, aggressively air water spray and then dry.



Re-silanate the Ceramic

The first silanation should have taken place at the lab. Re-silanating is optional and may improve the bond strength.

Re-silanating is a simple process. Silane comes in two bottles. Mix together one drop from each bottle and then use a brush to apply the mixture to the internal aspect of the restoration. Let that dry for 30 seconds on its own, and then aggressively air dry it.



Re-silanating is optional and may improve the bond strength.



STEP 6: CEMENTATION

Acid Etch & Then Apply the Bonding Agent

Properly isolate the area and then do an acid etch. For veneers you should do a total etch. For crowns and bridges, you may want to do a selective etch, since there is often much less available enamel.

After the etching is complete, apply the bonding agent and then light cure. While there are many options regarding bonding agents, the universal bonding agents such as BISCO All-Bond Universal light-cured dental adhesive are currently the most popular.



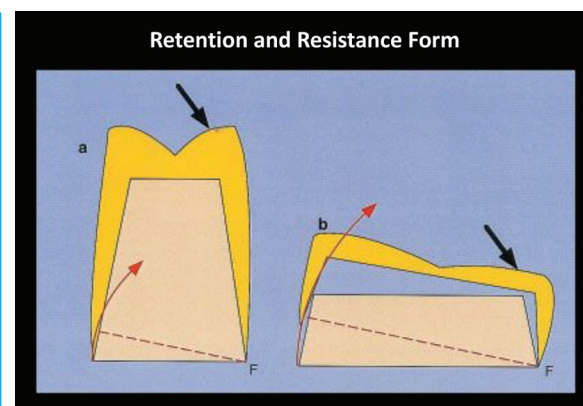
Cement the Restoration in Place

For veneers a light-cure resin cement will give you a little bit more working time to ensure the veneers are completely seated, evaluate the fit and clean off the excess cement. Your other option is to use a dual cure resin cement. Just be sure to avoid most of the self-adhesive dual cure resin cements, as they are contraindicated for use with veneers.

For crowns and bridges the decision regarding what type of cement to use will be based on the retention and resistance form of your crown prep. If you have tall axial walls with minimal taper, you can use either a dual-cure resin cement or one of the newer self-adhesive resin cements. But if your retention and resistance form is compromised, a dual-cure resin cement will be your best choice to ensure a good bond strength.

For cementation, use...

- **Light-cure resin cement** for veneers
- **Dual-cure or self-adhesive resin cement** for crowns and bridges



STEP 7: CLEAN UP, FINISH & POLISH

At this point all you need to do is your finishing and polishing.

- 1** **Remove the gross excess cement** using a fine diamond strip and a number 12 scalpel blade. Be sure to go around the margins and on top of the papilla.
- 2** **Do a final polish** using 30-fluted carbides at the margins, both facially and interproximally, followed up with porcelain polishing paste applied using a prophy cup.



The final step is to do the finishing and polishing.





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