



About Dr. Michael Barr

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Crown Under Clasp—Redux

Here's how to create a new crown that fits an old clasp like a glove, AND THE PATIENT DOESN'T EVEN HAVE TO SURRENDER THE PARTIAL.

By Mike Barr, DDS, Boynton Beach, FL

We all know what a pain it can be when you have to crown a tooth that's serving as an abutment for a perfectly good clasped partial.

Problem #1: *Persuading the patient to surrender the RPD for a week.*

Problem #2: *If it's an anterior bridge, of course, you'll have to make a flipper.*

Problem #3: *Then you have to very carefully pick up the partial in an impression.*

Problem #4: *And when the crown comes back from the lab – well, you better schedule an hour for adjustments.*



Because I sent the resin template (below) to the lab, the patient wasn't forced to surrender the partial denture. Furthermore, the crown fit perfectly—so I saved perhaps 45-minutes of crown adjustments.

The traditional approach never worked very well in my hands. I usually had to spend a lot of time adjusting the finished crown—and even then the fit wasn't terrific. I suspect the problem was the transfer impression. With everything hidden by a loaded full-arch tray, it's very difficult to assure that the partial is both completely seated in the mouth and passive.

A number of years ago I ran across an article in *Parkell Today* by Dr. Allen Weiner of Medfield, MA describing how to quickly-and-precisely register the relationship between the clasp and the preparation. The technique had the obvious advantage of permitting the patient to continue wearing the removable partial denture while the crown was being fabricated. (No need for anterior flippers!) Less obvious was the fact that this new technique produced much, much better fitting crowns. At least that's been my experience.

When a patient recently presented requiring a crown on #29, abutment for his free-end partial, it occurred to me that *Parkell* hadn't revisited the technique in quite a while. So I thought I'd photograph the case and pass it on along including a few of my personal embellishments.



(Unfortunately, the thought didn't occur to me until after the first operative appointment, so the intraoral steps are simulated using a tyodont. Sorry about that.)

If you're fortunate enough to work with a technician who's experienced in this technique, fabrication of the clasp-template can be made in the lab (steps 7 through 13.). Personally though, I feel more comfortable making the template myself.

Here's the technique from beginning to final insertion.

1. Prep the tooth as usual for a crown.
2. Make the normal impression(s) and registration for the crown.
3. Squirt a blob of Blu-Mousse over the prepped tooth, seat the partial denture, and squirt a bit more on top (Figure 1).

(continued)



Figure 1: After completing crown preparation, express Blu-Mousse over the tooth, seat the partial and express some more. (You'll save time during trimming if you quickly wipe away some Blu-Mousse to expose the surface of the clasp and occlusal rest.)



Figure 2: When you remove the partial the Blu-Mousse matrix will come with it.



Figure 3: Using a blade, trim away any Blu-Mousse covering the clasp...



Figure 4: and occlusal rest.



Figure 5: Carefully remove the matrix from the partial denture.



Figure 6: The matrix surface records the position of the clasp and rest. The gingival aspect records the position of the preparation.



Figure 7: When the model comes back from the lab, I cut a notch on the saddle for orientation.



Figure 8: I seat the Blu-Mousse matrix (From the lingual).



Figure 9: (From the buccal.)



Figure 10: Using resin (in this case automix temp material) I fill the mold of the clasp and rest mold. To prevent breaking, I overbuild this template a bit.



Figures 11-13: Here's my surrogate "clasp" positioned on the model. This template goes back to the lab along with the model.



Figure 14: And the finished crown fits like a dream. (Much better than when I used to pick up the RPD in the impression.)

4. Quickly wipe away the excess Blu-Mousse with your finger, so you can see the occlusal rest and clasps shining through the registration material. Let the Blu-Mousse set.

5. Remove the partial. The Blu-Mousse will come with it. (Figure 2)

6. Carefully trim away any excess Blu-Mousse still covering the clasps using a Bard Parker (Figures 3 and 4) and tease the impression out from under the RPD (Figure 5).

As I previously mentioned, if your lab knows this technique, that's all there is to it. You're done! Simply enclose the Blu-Mousse clasp registration along with the impression and lab order.

However, if your lab isn't familiar with this technique—or you just prefer to make the clasp template yourself, set the Blu-Mousse clasp registration aside, and send the impressions to the lab. Have them return the models to you.

(This is where the photos of the actual case start.)

7. Cut an index groove in the edentulous

area of the model (Figure 7).

8. Seat your clasp registration on the die. (Figures 8 and 9) (I've colored in the clasp and rest areas with a pen to make them easier to see.)

9. If the lab has separated the dies, block out the saw-cut area with some paper towel.

10. Flow a blob of resin over the index notch you previously cut in the saddle area. This will form the base of the template (Figure 10). (Here I'm using Luxatemp, but virtually any self-curing or dual-curing resin will do, including powder/liquid systems. In my opinion, however, the automix feature provided by cartridge-based systems is well worth the additional expense. No mixing hassle or smell.)

11. Flow the resin up the distal guide plane, onto the occlusal rest, and into the clasp areas.

Notice that the template is "over-built." Luxatemp is a bit brittle, so increasing the thickness will reduce the chance of breakage. Remember, this is a template—

not a pattern. All that matters is that you accurately reproduce the internal aspect of the clasp assembly. The thickness is irrelevant.

12. After it has set, carefully remove the "clasp assembly" from the Blu-Mousse. Here I have resealed it on the model to show how it orients to the preparation (Figures 11-13).

Send model and template case back to lab.

I sent these photos to the lab to make sure they understood what to do with that silly piece of plastic.

13. Final result? The crown was cemented exactly as it came back from the lab. I didn't touch the crown. Didn't touch the clasps (Figure 14).

Awesome!