



Removing the stigma of edentulism with non-removable temporizations and implant placement

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It's quite understandable that when a patient realizes they are losing all their teeth, it can be an emotional and even tearful time for them. Many may remember having joked as children when seeing their grandparents remove their dentures, and now they fear becoming stigmatized and a source of jokes themselves.

The edentulous patient essentially has five options:

1. Do nothing
2. A traditional removable denture
3. An implant-supported removable "snap-on" denture (in which a female entity snaps over a male entity)
4. An implant-supported non-removable denture
5. An implant-supported non-removable crown and bridge

In my experience, the implant-supported non-removable crown and bridge best addresses the patient's primary concern by being much more esthetically pleasing. It also feels more natural, is much more functional, provides a more accurate vertical dimension, and is easier to clean. In short, an implant-supported non-removable crown and bridge offers by far the best solution in both the short- and long-term.

This article will describe this solution in more detail.

The implant-supported non-removable crown and bridge solution

It's essential to have 2-to-3 natural teeth on each side of the arch that can be used as go-between to support a non-removable temporization, similar to what in the days before implants was called a "roundhouse." This will facilitate their smile and functionality while they're going through the transition involving implant placement and the associated surgical intervention with bone regeneration and suturing. Retaining the 4-to-6 natural teeth per arch also allows the patient to experience the natural sensory perception of lips and tongue touching teeth, the sensation of hot and cold, and muscle memory.



In our practice, we typically use long-term crown and bridge material (LuxaCrown®; DMG) for the temporization. It delivers excellent esthetics and fit, and it's more than durable enough to last for the 12-to-16-week transition period until the implant integration process has been completed. (In fact, LuxaCrown restorations are long-lasting, which comes in handy in case the patient has any issues requiring the placement of the final crown and bridge to be delayed significantly.)

The Plan

A great deal of careful examination and planning is required, particularly when – as is virtually always the case in my practice – guided surgery will be performed. This planning process should include the following:

- Consult with the patient to understand all their concerns and desires, particularly how they would like their smile to look.
- Perform a diagnostic assessment comprising:
 - Digital scan
 - Collect DICOM measurements and bone density data
 - CBCT x-ray
- Upload the digital STL files from the diagnostic assessment into the design software and create either a virtual model or a wax-up model of the planned smile design.
- Using the design software:
 - Plan which teeth to extract, and which ones to retain to support the temporary restoration during the transition until the implants are able to support the temporization.
 - Plan how many implants will be placed, and where. (There will usually be 6-to-8 implants per arch.)
 - Based on how much bone structure is evident, determine to what extent guided bone regeneration, tissue grafting, suturing, sinus lifting, or any other measures will be necessary.
 - Determine what other work, if any, might be required under the gums or on the bone structure.



- Have the patient return to the practice and show them the virtual or wax-up model of the planned smile design. Make any appropriate adjustments to the design template based on the patient's feedback.

The Execution

Once the plan has been finalized, here are the recommended executional steps:

1. Take a digital impression using an alginate replacement (StatusBlue®; DMG).
2. Based on the impression, the desires of the patient, and your own judgment, create (or have your dental lab create) two temporizations using LuxaCrown for the crown and bridge material to be saved both in model form and digitally for future reference.
 - The first temporization will have bridge (roundhouse) with crowns in all tooth locations except for the locations of the teeth that were retained.
 - The second will have crowns in all tooth locations.
3. Extract the teeth that are not being retained for the temporization.
4. Perform the guided implant surgery, placing the implants and doing any work involving adding bone, tissue grafting, suturing or anything else indicated under the planning umbrella.
5. Cement the first temporization (the one that has crowns in all, but the locations occupied by the retained teeth) with an adhesive monomer (PermaCem® 2.0; DMG) using the remaining natural teeth as support. The patient should leave your office with a smile that's esthetically pleasing and fully functional.
 - Note: During the next 12-to-16 weeks while the implants are integrating with the bone, your objective is to allow the patient to lead a normal life while you're periodically needing to make adjustments like revision surgery (such as for additional bone regeneration work or suturing). Fortunately, LuxaCrown crowns are easy to remove so you can add more bone or tie a new suture as needed. After each adjustment, you can simply re-cement the removed crown or replace it with a new one that's an exact duplicate of it thanks to the wonders of digital dentistry.
6. By the end of the 12-to-16 weeks, the implants should have been fully exposed, and the bone impact connection (BIC) measured to verify successful integration. At that point, the temporization can be removed, and the abutments can be inserted into the implants.



7. Take a stone or digital impression of the implants with the retained teeth.
8. Extract the remaining teeth that had been supporting the temporization and add bone to initiate guided bone regeneration (GBR) as needed.
9. Cement the second temporization (the one that has crowns in all tooth locations) using the PermaCem 2.0 using the implants as support.
10. Have the patient return in 6-to-8 weeks, by which time the healing and bone regeneration process where the retained teeth had been, should be complete.
11. Have a conversation with the patient to see how the temporization has been working and determine if any adjustments are necessary. If so, make those adjustments.
12. Take a final digital impression of everything: the teeth, the bone, the gums. This will be the foundation for the creation of the final porcelain restoration that will be placed at whatever time the patient would like.

As noted earlier, if for any reason it becomes necessary to delay the transition from provisional to final porcelain restoration for months or even years, this won't be a problem in light of LuxaCrown's exceptional durability.

Final Comments

During your first meeting with a patient who realizes they have lost – or are about to lose – their teeth, you're likely to see some tears. After all, the thought of being edentulous and having to wear removable dentures can be every emotional.

But if you can help the patient see the value in – and commit to – an implant-supported non-removable crown and bridge solution, you're also likely to witness tears during your final meeting with the patient: tears of joy.