

i-PROS Clinical Hint #1

Successful capture of the prepared tooth

Whether you are using a conventional silicone material, or a digital scan, the successful capture of the details of a prepared tooth to allow for an accurate and well-fitting indirect restoration, ultimately depends on **tissue management**.

The circumferential gingival tissues need to be reversibly displaced in two directions: vertical and horizontal. Healthy gingival tissues will allow such displacement and quickly rebound to a stable state.

This is most conservatively and reliably achieved via **dual-cord technique**. The technique I will describe has been successful in achieving the desired outcome when I have been taking impressions for over 30 years.

The technique



Relies on:

- Adequate tissue health
- A single non-impregnated (with a chemical astringent or vaso-constrictor)
- A second, wider cord (with chemical astringent)



Technique:

- Place the black silk and cut ends on the facial so they approximate.
- Tuck ends into the sulcus, without overlap – This provides the VERTICAL element of the 'retraction'.
- Place the wider cord (I use Kerr 'Gingibraid ' Size 1A) plus 'Hemodent' (Premier)
- This cord should NOT be trimmed, but rather provide a free end at the mid labial to allow for ease of removal at the required time.

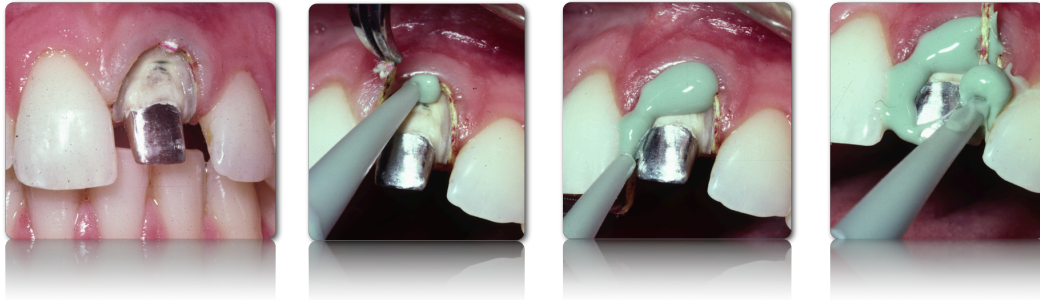
Critical element is now: **TIME**

Several minutes are required to allow for the displacement of the tissue to partially overcome the biologic rebound effect – Go and clean and repolish the provisional crown; scan or take the impression in the opposing arch; **just allow time!**

To this point, the technique is required for **EITHER** conventional or digital capture.

Intra-oral Technique for **conventional (silicone) impression:**

- Carefully lift the second cord using the exposed tag and slowly remove from the sulcus.
- Immediately follow with the 'light body' syringe-delivered material, thus introducing the silicone material into the expanded sulcus as the cord is being removed.
- Complete the coverage of the remaining coronal aspects of the tooth preparation and seat the tray.
- Hold stable to complete set.



Intra-oral Technique using **intra-oral scan:**



- Having complete the dual-cord placement as described above, complete the scan of the complete jaw (or segment as is required).
- (After sufficient time for expanded tissue stability) – gently remove second cord and immediate re-activate the intra-oral scanner around only the tooth / teeth to be recorded, and re-scan only these teeth.
- The computer software will then replace the prior detail with the newly captured detail, including the defined prepared margins.

Complete any re-adaptation of the provisional(s) and recement.

Last few notations to be aware of:

When you provide the Lab with a silicone impression and you prescribe a ceramic restoration (on teeth or implants), the cast when poured will be scanned to produce a digital image to commence a digital workflow – whether you are aware of, or request same, or not.

Ceramic restorations in the aesthetic zone usually require a manual 'build' onto the CAD-CAM ceramic 'coping' (or implant FDP framework) to best provide the desired outcome - this requires a physical cast. This can be achieved either from your silicone impression or made through an additional step (and cost) of a 3-D printed cast.