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How to Minimize Residual Cement on Implant Restorations

By Greggory Kinzer (/spear-review/author/greggory-kinzer/) on March 27, 2014 | (/bookmarks/bookmark/32070)

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Multiple approaches have been discussed in the dental literature on how to best cement an implant (https://www.speareducation.com/spear-review/category/implants) restoration and minimize the chance of leaving residual cement. Some of the options include:

1. Only line the apical 1/3 of the restoration with cement.

2. Place a cement “vent” in the restoration to minimize the hydraulic pressure pushing the cement subgingival.

3. Fabricate a “cementation device” (inject silicone directly into the crown thereby creating an abutment analog). The restoration is then loaded with cement, seated on the cementation device, immediately removed and seated in the mouth. The cementation device acts to displace excess cement before the restoration is seated to help prevent excess cement from being expressed at the margins.

4. Place retraction cord around the implant abutment prior to cementation. I have tried all of the above treatment options, and they can all work. However, the literature is clear that using a cementation device does result in the least amount of excess cement compared to other methods.

I have also had a fair number of restorations come “uncemented” with this technique. So, the technique I routinely use when cementing implant restorations involves the use of retraction cord. However, rather than placing one piece of retraction cord like we typically do around natural teeth, the placement of cord is slightly modified.

The technique I use is one that was described to me by a friend and fellow prosthodontist in Spain, Dr. Inaki Gamborena. In the technique, I place two pieces of retraction cord. The first piece is place on the facial and goes from palatal line angle to palatal line angle. The second piece is then placed on the palatal and goes midway through the interproximal. This enables the cord to be removed in two distinct directions (one from the palate and one from the facial) thereby minimizing the dragging of the cord through the interproximal embrasure.

When a single cord is used, inevitably the cord, as well as any cement that is stuck to the cord, is pulled through the interproximal thereby increasing the risk of cement breaking off and being left behind. Typically the size of cord I use is kept small (00) and placed just below the cavosurface margin of the restorations, rather than being pushed as far apically as possible.

In addition to the use of cord, I never completely fill the screw access hole of the abutment prior to cementation. I will place a cotton pellet or Teflon tape just over the screw itself and leave the rest of the chimney open. This space will then act as a cement “vent” or “reservoir” so that any excess cement gets shunted internally rather than subgingivally. And lastly, my assistant knows to lightly “line” the restoration with cement.

(Click this link to read more dentistry articles by Dr. Gregg Kinzer (https://www.speareducation.com/spear-review/author/greggory-kinzer/).)

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Reference

Evaluation of the amount of excess cement around the margins of cement-retained dental implant restorations: the effect of the cement application method. Chee WW, Duncan J, Afshar M, Moshaverinia A. J Prosthet Dent. 2013 Apr;109(4):216-21.

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